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Cov. 1, Pgs: 3, 5, 10

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November 1990

C4580-1  
\$7.00

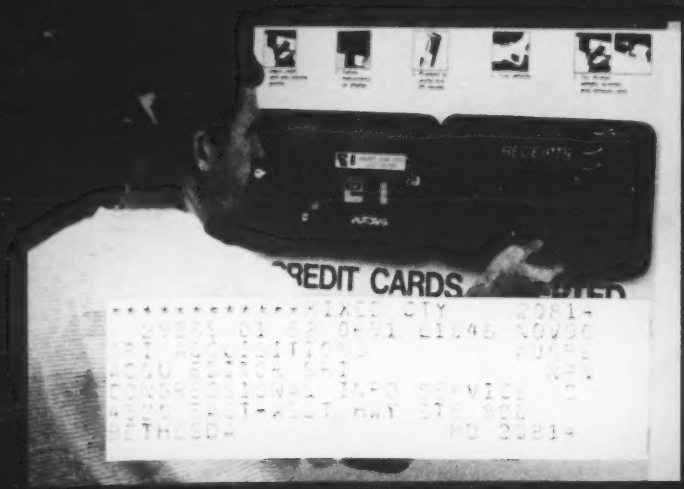
# Jobber Scores With C-Stores, Quick Lubes Rural America: How are Marketers Coping? Sign of the Times: Social Symbols in Vogue

# NPN

National Petroleum News



**Unattended:  
Is It Coming  
Along or Not?**





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## Editor's Viewpoint

**Inflated pump prices have triggered a great deal of commotion throughout the country, including charges of gouging and price discrimination. Besides angry motorists, the pandemonium at the pumps has put the nation's press, legislators and even roadside critics on the warpath. But more important, it has pitted suppliers against marketers, creating perhaps the greatest stress ever in the love-hate relationship they have shared over the years.**

At issue is the difference between jobber rack and company-direct retail prices. Marketers are angry because they have borne the brunt of the price increases which have occurred since the Iraqi invasion of Kuwait on August 2.

The principal marketer trade associations are once again considering retail divorcement. Historically, these national groups have resisted government solutions to marketplace problems. Therefore, it's a sure sign of the depth of marketer anger that the PMAA board approved a resolution directing staff to draft legislation supporting retail divorcement at the Petroleum Marketers Assn. of America's annual meeting and tradeshow this past October.

There is strong feeling by marketers that some suppliers are restraining price increases at their company stations at the expense of the independents. This has given motorists the impression that independent marketers are price gouging, when in fact they have been unable to pass along the increases they have been forced to pay at the rack.

One jobber told me at the PMAA convention, "We may not need divorce-ment, but we need something." Another added, "What with all that is going on at the wholesale and retail level, it's almost impossible to make a living." A Conoco jobber explained that between his station and another company-op location there was a 17¢ differential at the pump.

I guess the first question marketers should ask themselves is what impact would divorcement have on a free marketplace?

While I can see merits to both sides of the issue, retail divorcement doesn't appear to be the best answer to a very complex and difficult problem. What comes after divorcement? Divestiture of all retail outlets? At some point, will jobbers themselves be required to "divorce" their own company stations? There are many marketers who still aren't sure that retail divorcement is the answer.

First and foremost, oil companies have to act responsibly and work at enhancing their jobber relationships, not hindering them. The last thing the petroleum industry needs is more governmental controls.

On a positive note, PMAA's annual convention was a hit this year. Petroleum marketer turnout reached new highs and the seminars were informative and well-attended. PMAA, keep up the good work!

—Peggy Smedley

NPN—National Petroleum News (ISSN 0149-5267) is published monthly (except semi-monthly in June) by Hunter Publishing Limited Partnership, 950 Lee Street, Des Plaines, Illinois 60016, (708) 296-0770.

© NPN—National Petroleum News

Second class postage paid at Des Plaines, Illinois and additional mailing offices.

Subscriptions are solicited only from executive, management and supervisory personnel at the supplier and wholesale level of oil marketing, engaged in the distribution, merchandising, transportation and storage of petroleum, TBA products, and convenience store items. Position, company and segment of industry must be indicated on subscription orders.



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Postmaster: Send address changes to NPN—NATIONAL PETROLEUM NEWS, 950 Lee Street, Des Plaines, Illinois 60016.

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Unattended automated fueling is making headway, but not on all fronts. Commercial cardlocks are expanding rapidly, but growth of public unattended stations, while promising, is still slow. Here's a progress report.

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Bill Kent, a second generation jobber, is building a stronger identity in West Texas markets pursuing a strategy that emphasizes large modern C-stores and adjacent quick lubes.

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These are changing times in the rural/small town marketplace. Rural marketers are getting hit by environmental regs, a shrinking farm market and tougher competition. But many rural jobbers are adapting to the changes and finding new opportunities for growth.

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## ● TRENDS

### Does the U.S. Mean Business in Energy Reform this Time?

After the Mideast oil crises of the 1970s passed, the United States practically fled from the course it had taken to encourage oil exploration, develop alternative fuels and promote conservation of oil. In the present crisis, the resolve has been born again and appears to be more determined. It may signal the coming of a stronger national commitment this time around.

Briefing the Senate energy committee in September, Energy Secretary James Watkins outlined the steps DOE was taking to help offset the loss of 4-million-plus bbl. of crude oil on the world market as a result of the United Nations embargo of Iraq and Kuwait.

He gave the committee a list of energy supply and conservation recommendations, which supplemented an earlier list [NPN—Sept., p62]. He said all the steps could add 607,500 b/d or the equivalent by the end of 1990 and another 530,000 b/d by the end of 1991.

DOE will encourage consumers to use lower octane gasoline, a process some oil companies had begun on their own. Watkins said about 80% of vehicles on the road would operate well on 87-octane regular unleaded. He proposed cutting the national average octane of regular unleaded to 87 from 88.5, a saving 30,000-80,000 b/d.

DOE will campaign for better driving habits in the Federal Driver Energy Conservation Awareness Techniques (DECAT) program. Potential savings: 120,000 b/d.

It will work with petroleum marketers to encourage oil burner tuneups and replacement with better burners, boilers and furnaces. This could save 35,000-50,000 b/d.

DOE will help utilities develop electricity conservation programs, especially the 29 in the Northeast and Mid-Atlantic states that use 94% of the 650,000 b/d of oil consumed in electrical power generation. A 1% reduction in electricity consumption would save the equivalent of 150,000 b/d of oil.

The agency will help New England local governments build municipal solid waste plants to generate electricity, saving as much as 35,000 b/d of oil.

The government is forming an inter-agency task force to identify Alaska oil production projects that would benefit from expedited processing of federal permits. Two already identified could result in production of up to 100,000 b/d in 12-18 months.

DOE is working with federal and state agencies to lower regulatory barriers that prevent delivery of natural gas for enhanced recovery of heavy California crude. This could increase oil production 50,000-100,000 b/d in 1-2 years from 13,000 shut-in wells.

Watkins said DOE is continuing to try to find a way to get the Point Arguello field offshore California on stream, but it won't happen until the first quarter of 1991 at the earliest. Eventually this field could produce 100,000 b/d.

The administration is renewing its request to Congress to provide incentives for U.S. oil and gas exploration. This could develop 172,000-196,000 b/d by 1995.

Watkins said DOE would ask Congress to allow leasing and exploration of the coastal plain of the Arctic National Wildlife Refuge (ANWR) on the north slope of Alaska. He added he believed this could be done in an environmentally sound way acceptable to Congress.

He said federal and state agencies could hurry up their processing of several gas pipeline projects that are blocking supplies that could displace 55,000 b/d of oil.

Refiners, which use one-fourth of the oil consumed in the United States, mostly for feedstocks, could save 36,000 b/d for every 1% reduction.

These are potentially significant contributions, but perhaps more importantly they are evidence that some serious thinking is going on. If pressed forcefully, some of these measures could show people what they themselves can do to save oil without changing their lives fundamentally.

A looming war involving U.S. military forces in the Mideast is a far greater trauma than the long lines of the 1970s, and the situation threatens to get much worse. Some of the new resolve just might stick.

—Mark Emond

## ● MARKETPLACE AT A GLANCE

### AVERAGE GASOLINE PRICES IN THE U.S. (per gal.)

|                | Gasoline<br>(All types) | Leaded<br>Regular | Unleaded<br>Regular | Unleaded<br>Premium |
|----------------|-------------------------|-------------------|---------------------|---------------------|
| August         |                         |                   |                     |                     |
| U.S. City Avg. | \$1.246                 | \$1.198           | \$1.190             | \$1.369             |
| Regions        |                         |                   |                     |                     |
| Northeast      | 1.243                   | 1.210             | 1.166               | 1.374               |
| North Central  | 1.278                   | 1.257             | 1.227               | 1.429               |
| South          | 1.209                   | 1.200             | 1.143               | 1.321               |
| West           | 1.263                   | 1.179             | 1.230               | 1.401               |

Source: U.S. Dept. of Labor, Bureau of Labor Statistics.

### STOCKS (Add 000 bbl.)

|                      | 9/28/90 | 9/29/89 |
|----------------------|---------|---------|
| Gasoline (Total)     | 223,892 | 223,741 |
| Gasoline (Unleaded)* | 172,008 | 161,715 |
| Jet Kerosine         | 42,143  | 40,065  |
| Distillates          | 134,807 | 122,923 |
| Residual             | 51,488  | 33,792  |

\*Included in gasoline total.

Source: American Petroleum Institute.

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PUBLICATION HAVE BEEN FILMED

Cov. 1, Pgs: 3, 5, 8, 10,

12, 30, UST.8-UST.13,

UST.25, 77-80

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December 1990

\$7.00

**D-I-Y Pays Off in Small Towns**  
**Fuel Oil: Expect More Erosion**  
**Jobbers Reconsider Retail Divorcement**

**NPN**



**Is Marathon on the Road  
To Independence Again?**

**EXCLUSIVE!**  
**UST Handbook**



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## Editor's Viewpoint

**Korea: Recently, I had the pleasure of visiting this fascinating and charming country. I was there at the invitation of the president of the Petroleum News of Korea to observe the petroleum market and to compare what's happening in that market with the U.S. oil market. I also spoke to a group of Korean marketing execs, offering my observations on the two markets.**

During my stay, I visited the largest oil company in the country, as well as several independent jobbers. I even observed a few gasoline stations.

I think the most important distinction I found is that the Korean industry is about where the U.S. industry was 10 or 15 years ago—and in some respects, earlier than that. Automotive service work in stations—TBA centers as they call them—is widespread and very popular, just as it was here 20 years ago. Full service at the pumps is the only service—self-serve is unknown. C-stores at this point are only a glimmer in their eyes. Quick lube outlets, unattended or cardlock stations and free car washes are practically unimaginable to Korean marketers. Station electronics, POS, etc., are still in their infancy.

On the other hand, the Korean petroleum industry is booming at a pace that American marketers can only envy—about 15% per year—and we'll see some dramatic changes there in the years ahead.

Most important of all, government controls are finally being lifted. Currently, the government regulates just about every aspect of the industry. For example, there's a minimum-maximum cap on retail gasoline margins. However, the government has indicated that in January it will open the door to a much freer marketplace. And Korean jobbers are hoping this new environment will encourage U.S. oil companies to invest in marketing joint ventures with them. In the June issue of *NPN*, we hope to give you even more insights into Korean oil marketing, how it has evolved and some of the opportunities we can see developing there.

On another note, the Petroleum Marketing Education Foundation's (PMEF) seminar for women in Petroleum and C-store Marketing this past October was very informative and enlightening—not only for the 50-plus women on hand, but perhaps most of all for the three male attendees, present only because they were guest speakers. This was a new endeavor for PMEF, and I think they're to be commended for inviting a variety of women, all with important responsibilities in petroleum marketing who shared their awareness of the expanding role women are assuming in the industry.

In this traditionally male-dominated industry, it has been blue suits and ties for a long time. Make way for blue skirts and heels, gentlemen.

—Peggy Smedley

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The marriage of big steel and big oil—USX and Marathon—could be coming to an end. Marathon shows signs of emerging from its steel cocoon as a stand-alone independent again.

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Fuel oil outlook: Marketers can expect the oil heating industry to lose as much as 5% of its market share by the end of this heating season, thanks to the latest round of price increases.

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Wisconsin-based gasoline/C-store marketer Kwik Trip successfully blends a state-of-the-art marketing style with an image of simple country values.

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## Iraqi Crisis Impacts Third-Quarter Profits

There was neither sense nor sanity in the third-quarter and nine-month earnings reports of the nation's leading oil companies as the Mideast crisis turned crude and product prices upside down. Supplies posed no problems for anyone, however.

Exxon, as an example of what went on in August and

### Corporate Profits Varied from -71% to +1,400%

(Millions of dollars)

|               | 3rd qtr.<br>1990 | 3rd qtr.<br>1989 | %<br>Chng | 9 mos<br>1990 | 9 mos<br>1989 | %<br>Chng |
|---------------|------------------|------------------|-----------|---------------|---------------|-----------|
| Exxon         | \$1,075.0        | \$1,075.0        | —         | \$3,455.0     | \$3,025.0     | 14.2%     |
| Mobil         | 379.0            | 532.0            | (29.8)    | 1,277.0       | 1,362.0       | (6.2)     |
| Chevron       | 403.0            | 417.0            | (3.4)     | 1,524.0       | 1,134.0       | 34.4      |
| Amoco         | 530.0            | 336.0            | 57.7      | 1,375.0       | 1,291.0       | 6.5       |
| Shell         | 227.0            | 340.0            | (33.2)    | 590.0         | 1,140.0       | (48.2)    |
| Texaco        | 381.0            | 305.0            | 24.9      | 1,062.0       | 2,126.0       | (100.2)   |
| Arco          | 462.0            | 379.0            | 21.9      | 1,445.0       | 1,550.0       | (6.8)     |
| BP America(a) | 540.0            | 509.0            | 6.1       | 1,831.0       | 1,748.0       | 4.7       |
| Phillips      | 178.0            | 87.0             | 104.6     | 542.0         | 474.0         | 14.3      |
| Conoco *      | 126.0            | 98.0             | 28.6      | 273.0         | 430.0         | (36.5)    |
| Unocal        | 121.0            | 79.0             | 53.2      | 363.0         | 286.0         | 26.9      |
| Marathon **   | 278.0            | 189.0            | 47.1      | 800.0         | 821.0         | (2.3)     |
| Coastal       | 33.0             | 3.0              | 1,000.0   | 130.7         | 98.7          | 32.4      |
| Sun           | 25.0             | 85.0             | (70.6)    | 211.0         | 271.0         | (22.1)    |
| Amer. Hess    | 280.0            | 51.8             | 440.5     | 247.5         | 405.0         | (39.0)    |
| Pennzoil      | 26.4             | 35.4             | (25.4)    | 63.8          | 206.0         | (69.0)    |
| Ashland ***   | 59.1             | 39.4             | 50.0      | 182.1         | 86.2          | 111.3     |
| Kerr-McGee    | 43.1             | 20.2             | 113.4     | 100.3         | 118.0         | (15.3)    |
| Murphy        | 37.6             | 2.5              | 1,404.0   | 95.0          | 25.7          | 270.0     |
| Am. Fina      | 26.5             | 15.1             | 75.5      | 106.5         | 105.7         | 0.8       |
| Citgo         | na               | na               | na        | na            | na            | na        |
| Dia. Sham.    | 53.2             | 10.1             | 426.7     | 69.7          | 51.9          | 34.3      |
| Crown Cent.   | 2.4              | 8.8              | (72.7)    | 18.7          | 17.9          | 4.5       |
| Total         | 36.8             | 10.4             | 253.8     | 41.7          | 38.5          | 8.3       |

\* After tax income; \*\* operating income; also, 3 qtr. and 9 mos. were restated to reflect TXO, Inc. asset sales and incorporation of balance into Marathon Oil; \*\*\* 4th qtr. and full year; fiscal ends 9/30.

(a) These are replacement cost operational profits for the American segment of the London corporate report. BP America no longer restates them to reflect past accounting procedures and policies.

September, says its third-quarter profits this year were exactly the same while its nine-month figures were up only a modest 14%. Downstream, its earnings were off 56% in the third quarter and 40% in the nine-month period.

Marathon had a strong upstream and downstream third quarter, but the exact dimensions were clouded because it closed out its TXO, Inc., operations in the Southwest, selling some of the assets and rolling the rest into Marathon Oil in Houston. Even with a restatement of earnings, however, Marathon appeared to be on the verge of its first \$1-billion earnings year in its history. It was close last year, \$987-million, and was at the \$800-million mark at the end of nine-months 1990 and running fast.

Mobil says its earnings were down 29% in the third quarter while Amoco reported a 58% increase. Shell's roller-coaster returns were off 33%.

Fantastic percentage increases were posted by Murphy and Coastal for the third quarters—1,400% in Murphy's case and 1,000% in Coastal's.

### Downstream, Conoco Rang the Bell with +136

(Millions of dollars)

|                  | 3rd qtr.<br>1990 | 3rd qtr.<br>1989 | %<br>Chng | 9 mos<br>1990 | 9 mos<br>1989 | %<br>Chng |
|------------------|------------------|------------------|-----------|---------------|---------------|-----------|
| Exxon (total)    | \$246            | \$347            | (29)      | \$1,011       | \$758         | 33        |
| Domestic         | 54               | 124              | (56)      | 102           | 256           | (60)      |
| Foreign          | 192              | 223              | (14)      | 909           | 502           | 81        |
| Mobil (total)    | 5                | 366              | (99)      | 375           | 554           | (32)      |
| Domestic         | (22)             | 82               | —         | 75            | 253           | (70)      |
| Foreign          | 27               | 284              | (90)      | 300           | 301           | —         |
| Chevron (total)  | 35               | 189              | (82)      | 613           | 405           | 52        |
| Domestic         | (53)             | 130              | —         | 376           | 240           | 57        |
| Foreign          | 88               | 59               | 49        | 237           | 165           | 44        |
| Shell (total)    | 13               | 106              | (88)      | 65            | 351           | (82)      |
| Texaco (total)   | 169              | 159              | 6         | 633           | 505           | 23        |
| Domestic         | 108              | 74               | 46        | 309           | 190           | 63        |
| Foreign          | 61               | 85               | (28)      | 324           | 315           | 3         |
| BP America       | 289              | 111              | 160       | 656           | 476           | 38        |
| Phillips (total) | 51               | 48               | 6         | 160           | 161           | —         |
| Conoco (total)   | 184              | 78               | 136       | 400           | 241           | 66        |
| Marathon         | 142              | 112              | 27        | 482           | 347           | 39        |
| Sun (total)      | 26               | 77               | (66)      | 192           | 228           | (16)      |
| Domestic         | 12               | 4                | (100)     | 170           | 205           | (17)      |
| Foreign          | 14               | 73               | (81)      | 22            | 23            | (4)       |

## Southland in Chapter 11, Business As Usual

Despite Southland Corp.'s filing for protection under Chapter 11 in late October, the convenience store giant expected operations at its offices and throughout its chain of 7-Eleven stores to continue normally.

The company says it is immediately filing motions in bankruptcy court to assume existing 7-Eleven franchise and area licensee agreements; pay employee salaries and wages; continue employee benefit plans; and pay pre-petition debt in full to all suppliers who agree to provide the company with customary credit terms during the bankruptcy case.

Southland says debt holders and equity holders have given the company sufficient percentages of votes for a prepackaged reorganization plan. Also in connection with the filing, a group of lenders is providing Southland with \$400-million in debtor-in-possession (DIP) financing.

Soon after the filing, bankruptcy court authorized immediate

use of \$100-million of the DIP financing, according to the company. Southland intends to use the DIP funds to buy inventories and to continue the company's other normal operations, Southland says.

"In light of the results of the exchange offers and the high level of support we have received for our prepackaged reorganization plan, we believe this is the best alternative to complete a financial restructuring quickly," says Clark Matthews, Southland's chief financial officer. "We hope to obtain court approval of the prepackaged reorganization plan as soon as possible."

The U.S. Bankruptcy Court for the Northern District of Texas, Dallas Division, scheduled a confirmation hearing for Southland's prepackaged reorganization plan for December 14.

Southland also announced a new stock purchase agreement with longstanding business partners Ito-Yokado Co., Ltd., and Seven-Eleven Japan Co., Ltd. Among other things, the agreement provides for Ito-Yokado and Seven-Eleven Japan's purchase of 70% of Southland's common stock for \$430-million in cash.

## ● TRENDS

### Will Higher Prices Set Off An Inflationary Spiral?

The furor over sharp gasoline price increases that occurred after the Iraqi takeover of Kuwait in early August has died down some—though not forgotten, by any means—and in its place has risen concern over the likelihood of inflation, recession, stagflation, or whatever, caused by the crisis.

While there are many conflicting theories, in this case the most compelling ones appear to be those based on the lessons of the two oil supply disruptions of the 1970s and subsequent economic developments in the 1980s.

If the United States is already in a recession, or will be going into one, as most economists believe, high oil prices would further choke off business activity because it would deprive companies of money needed to expand.

More importantly, if higher oil prices trigger inflation, particularly increased labor costs, business would encounter a persisting drain on available capital—foreboding of possible long-term recession and even depression.

U.S. wholesale and consumer prices have risen directly as a result of higher petroleum prices, partly because oil prices are factored into the price indexes, but that does not by itself mean an inflationary spiral will follow.

The answer hinges strongly, many economists say, on whether the Federal Reserve Bank system tries to head off a recession by making more money available, and how much more? Since banking systems all over the world now realize they got into trouble by doing so in the '70s and '80s, this does not appear likely to happen.

For example, when the Federal Reserve loosened money in late October by cutting the interest rate bank's charge on overnight loans—to 7.75%, down a quarter of a percentage point—the amount was viewed as modest.

It was considered mostly a politically inspired ploy meant to help offset any dampening effect the budget deficit reduction bill passed by Congress might have on the economy. The rationale is that higher taxes and less

spending tend to slow the economy down; loosening credit tends to pick up the pace.

The modest size of the interest-rate decrease lent further plausibility to the growing consensus that the Federal Reserve won't help stoke inflation by feeding it money. Petroleum prices are higher, but they don't lead to inflation without help—this is the lesson learned.

A new study by a researcher at the Federal Reserve Bank of San Francisco (FRBSF), Adrian Throop, analyzes what conditions must *not* exist to prevent higher oil prices from becoming inflationary.

First, the Federal Reserve should not try to offset the economic impact of immediately higher prices of many goods and services caused by higher petroleum prices. A little slowdown of economic activity has at least one ameliorating result: it increases unemployment temporarily and removes some pressure for higher wages, one of the principal contributors to spiraling inflation.

Second, the public must not perceive higher petroleum prices to be permanent. Business and labor became accustomed in the '70s and '80s to big swings in the price of oil. If the increases were considered lasting, labor would make demands for higher wages. Without such an expectation, and with an oversupply of labor, such demands would be moderated and persisting inflation would not be instigated.

At present, there is much evidence that most people do not perceive higher oil prices to be permanent. Should the Iraqi occupation of Kuwait give rise to a shooting war, however, with probable destruction of oil-producing facilities, the public perception could change and set off inflationary response.

FRBSF researcher Throop concludes that "the response of wage inflation to supply shocks, such as the current boost to oil prices, tends to be small and to die out fairly quickly. Moreover, the wage response has fallen over time as the market has become more accustomed to fluctuations in the price of oil and as the Federal Reserve's commitment to maintaining price stability has become more credible.

"As a result, the current oil price shock is not likely to set off a significant wage-price spiral." —Mark Emond

## ● MARKETPLACE AT A GLANCE

### AVERAGE GASOLINE PRICES IN THE U.S. (per gal.)

|                | Gasoline<br>(All types) | Leaded<br>Regular | Unleaded<br>Regular | Unleaded<br>Premium |
|----------------|-------------------------|-------------------|---------------------|---------------------|
| SEPTEMBER      |                         |                   |                     |                     |
| U.S. City Avg. | \$1.347                 | \$1.297           | \$1.294             | \$1.467             |
| Regions        |                         |                   |                     |                     |
| Northeast      | 1.368                   | 1.279             | 1.295               | 1.498               |
| North Central  | 1.366                   | 1.353             | 1.321               | 1.501               |
| South          | 1.317                   | 1.314             | 1.253               | 1.425               |
| West           | 1.350                   | 1.277             | 1.318               | 1.479               |

Source: U.S. Dept. of Labor, Bureau of Labor Statistics.

### STOCKS (Add 000 bbl.)

|                      | 9/2/90  | 9/3/89  |
|----------------------|---------|---------|
| Gasoline (Total)     | 221,221 | 222,849 |
| Gasoline (Unleaded)* | 171,557 | 164,881 |
| Jet Kerosine         | 45,131  | 43,417  |
| Distillates          | 138,227 | 120,581 |
| Residual             | 49,667  | 50,262  |

\*Included in gasoline total.

Source: American Petroleum Institute.



## Remember '79? Are 'Gas' Line Nightmares in the Cards Again?

Theoretically, there shouldn't be any serious supply problems this winter, but in the Never-Never Land atmosphere of today's marketplaces, don't be surprised if a faltering distribution system should suddenly recreate the nightmarish "gas" lines of 1979.

In mid-October, product inventories were as normal as could be. Only propane seemed to be depressed. Gasoline and distillate prices were wild and woolly, however, and there was no indication that they would shake down until well into 1991, at the earliest.

Only war itself, or possibly terrorist activities affecting supply lines or refineries, could upset the stalemate that now exists. If war comes, the probability of "gas" lines at service stations is as inevitable as the winter's snows.

The Atlantic seaboard from Maine to Florida would be the hardest hit, of course, because there are more cars and more people to be catered to here than elsewhere in the country. The East Coast requires about one-third of the nation's gasoline supplies (about 35-billion gal.) to satisfy its 59-million cars, trucks and buses. The coastal states also have about 71-million people, a little less than one-third of the nation's total.

True, public transportation is more readily available on the East Coast than elsewhere, but somehow that never seems to save the day when panic situations engulf the gasoline marketplaces.

Remember what it was like in 1979? This could be Anytown, U.S.A., but for the moment focus on Morristown, N.J., an affluent county seat town of perhaps 20,000 or so souls, to put things in perspective.

Back in 1979, people parked all night near service stations, huddled and uncomfortable pending the usual 7:00 a.m. opening. Sometimes the gasoline lines were a mile or more in length, depending on roadways, access facilities and harassed police forces.

Brand loyalties were forgotten. Morristown people, like their counterparts elsewhere in the U.S.A., paid whatever it cost to get a motor fuel, so long as it was liquid and would make their engines go, even if they did sputter and ping. Back then the

going price was a little over \$1 gal. Today the all-types average is almost \$1.50 and there's no end in sight. The worst possible scenarios regard \$2 to \$3 gasoline as distinct possibilities in 1991.

There are fewer gasoline stations in Morristown today to cope with lines and logjams, just like in other communities. Nationwide, there are 110,000 "true" service stations now compared with 150,000 in 1979. There are fewer independents, many of them having been churned underground in the rough marketplaces of the early '90s.

Gasoline marketing became a numbers game in 1979, depending on whether license plates had odd or even numbers. Some people had extra sets, switching to suit their needs. Fist fights and knifings, while not commonplace, happened often enough to make holding a place in line a touch-and-go affair.

Here's a rough calculation of the Atlantic seaboard and its petroleum characteristics:

| State     | 1989 Data        |                             |                 |
|-----------|------------------|-----------------------------|-----------------|
|           | Motor Vehs. (mm) | Gasoline Consump. (mm bbl.) | Population (mm) |
| Maine     | 1.0              | 15.5                        | 1.1             |
| New Hamp. | 1.0              | 7.7                         | 0.9             |
| Vermont   | 0.5              | 4.3                         | 0.5             |
| Mass.     | 3.8              | 60.6                        | 5.7             |
| Conn.     | 2.7              | 31.9                        | 3.0             |
| Rhode Is. | 0.7              | 12.9                        | 0.9             |
| New York  | 10.2             | 125.3                       | 17.6            |
| New Jer.  | 5.9              | 108.6                       | 7.4             |
| Delaware  | 0.5              | 8.4                         | 0.6             |
| Maryland  | 3.6              | 45.4                        | 4.2             |
| D.C.      | 0.3              | 4.3                         | 0.6             |
| Virginia  | 4.7              | 72.0                        | 5.3             |
| N.Car.    | 5.2              | 80.3                        | 5.9             |
| S.Car.    | 2.5              | 39.6                        | 3.1             |
| Georgia   | 5.4              | 81.3                        | 5.5             |
| Florida   | 11.4             | 145.4                       | 9.7             |

## Pa. Testing Sawdust As Fuel Oil Alternative

Pennsylvania is exploring a variety of options, including sawdust, to find an alternative for fuel oil in 700 or so state office buildings. Interesting as the sawdust option sounds, however, it may prove to be, like the old adage says, a cure that could be worse than the illness itself.

A test of the sawdust option is being made at a state hospital in Warren, in northwestern Pennsylvania. The sawdust is coming from the furniture and paper industries. State authorities estimate the hospital needs three tons of sawdust an hour to replace the fuel oil it's now burning. At that rate, the hospital needs 72 tons/day or 500 tons/week. In itself, that would create quite a storage and transportation problem. Nevertheless, the state says a saving of \$400,000 a year could be realized.

Pennsylvania has about 2,500 office buildings, of which about 25% rely on fuel oil. The idea is to switch away from oil entirely, if possible, to reduce the state's dependence on foreign oil sources. The plan was announced recently by Lt. Gov. Mark Singel.

## Getty Sued for Tank Leaks in Connecticut

Getty Petroleum Co. has become the third marketer in recent months to be sued by the Connecticut State Attorney General for alleged improprieties in underground storage tanks.

The suit was filed in Hartford Superior Court in September by Clarine N. Riddle, on behalf of the state. It alleges Getty missed a Sept. 1 1989, deadline for replacing tanks at five locations and for failing to report leaks at several others.

Riddle said the oil company faces possible penalties of \$10,000/day for violations prior to Sept. 1, 1989, and \$25,000/day for violations after Oct. 1, 1989.

In September the state also sued the owner of an independent station in Greenwich, alleging that it had an 8,000-gal. leak. Last March, Hendel Inc. of Stonington, was charged with a 1,500-gal. leak. Riddle's office said penalties could exceed \$15-million.

## Sun Field Tests Expand Used Oil Disposal Center

Sun Refining and Marketing, the second largest manufacturer of lube oils in the U.S., has opened a used oil collection center in Pennsylvania and says it may expand the concept systemwide if it proves successful.

Customers must transport their used oil in approved containers to a designated Atlantic service station on Route 30 near Exton. If the idea clicks, says lube division vice president David Rippey, it'll be expanded as an environmentally sound alternative for the do-it-yourself oil changer.

In similar vein, Mobil Corp. launched a TV campaign in October to urge motorists to dispose of their used oils in an environmentally acceptable manner. Mobil said 175-million gal. of used lubricants are disposed of improperly every year. **NEW**

## N.Y. State Cancels Permits Of 'Worst Harbor Polluter'

It'll probably take years before the last "i" is dotted and "t" is crossed, but New York State is now engaged in a legal battle to shut down what it says is the worst polluter yet of its harbor waters—a family-owned network of barging companies that has been accumulating fines and violation citations for 20 years.

There may be millions of dollars in penalties and unpaid taxes, and even jail sentences for some of the principals, before it's all over. Officials said the family's four dozen or so interlocking companies now owe New York city and state and interests more than \$1-million, and tens of thousands more to New Jersey and federal agencies. The incredible case surfaced in mid-October, when New York's commissioner of environmental affairs revoked the operating licenses of at least 19 of the family's barges.

Now he's trying to make the revocations stick. No one expects this to happen without a long and hard legal battle that will probably last for years. It may take months, for example, just to untangle the labyrinth of companies to identify them and their principals.

The commissioner's office said eight of the barges lack Coast Guard inspection certificates and five others have been cited for failure to complete required inspections. The barges currently handle about 10% of the petroleum and sludge disposal in New York Harbor.

In the past seven years alone, the commissioner's office said, the barges have been involved in three groundings, nine oil spills, two collisions and 21 cases in which the Coast Guard assessed penal-

ties for federal safety violations—none of which has been paid.

More than 1-million gal. of petroleum products have been spilled in the harbor this year alone, most of them in the Kill Van Kull waterway which separates New York City from Staten Island and New Jersey. The current action stemmed from a 40,000 gal. spill in October. The Coast Guard said the vessel in question lost its certificate to haul petroleum products and sludge three years ago.

Evelyn Berman Frank, the matriarch of the clan and the chief executive of one of the companies involved, is in her seventies, city officials said. She faces a possible jail sentence now after pleading guilty to a charge of illegally dumping sewage sludge in the harbor in 1987 and 1988. One of her companies, General Marine Transportation Corp., has already agreed to pay a \$1-million fine.

Thomas C. Jorling, New York's environmental affairs commissioner, said this was the first time, to his knowledge, that the licenses of a company operating in the harbor had been revoked.

"This is the worst performer yet with respect to the rule of law," Jorling said.

The *New York Times* blamed bureaucratic oversights for much of the problem as well as fears that other sludge and petroleum barges wouldn't be able to handle the traffic if one as big as Frank's would be put out of business.

New York State Attorney General Robert Abrams was quoted as saying that prior to the 40,000 gal. spill his office "didn't have a hint of wrongdoing" by any of the Frank-owned companies on the Manhattan side of the harbor.

## Speculators Fingered As Price Hike 'Culprits'

'Twas only a small voice in October, but a Washington energy consultant put the blame for the marketplace hysteria of recent months on the shoulders of those he says are directly responsible—traders and speculators, not oil companies and marketers.

In a signed article in the *New York Journal of Commerce*, John P. Venners, president of Venners & Co., Washington, D.C., had this to say about the chaotic conditions and unjustified spikes in crude and product prices in the wake of the Iraqi conquest of Kuwait:

"Since the advent of oil futures contracts several years ago, oil pricing has largely been taken away from the direct participants in the oil business and turned over to speculators and traders at the New York Mercantile Exchange. These Wall Street Refiners thrive on volatility and have the ability to continue fueling a trend, even if it is contrary to market fundamentals. Those in the business of buying, refining and distributing 'wet' petroleum products often have been steamrollered by these chart-driven market setters.

"Unlike dealers who trade stocks and bonds on the major exchanges, traders in the oil futures pit can trade on their own account while having full and complete knowledge of what other customers' positions and strategies may be. Most importantly, these traders know where many of the stop loss orders are on major positions. With that privileged information, they often have the ability to trigger those stops, which further drives an already distorted market."

Venners also contended that the Wall Street Refiners "thrive on volatility and rumors to manipulate and distort the market. They can not make real money in a stable market and they are certainly not concerned about the political backlash of rising crude oil prices. It's a big game that makes a lot of money for those that control it."

Venners also questioned the wisdom of turning a major commodity with serious national security implications, such as oil, over to a group of short-term traders and speculators who have never seen a barrel of crude oil or even a refinery. His conclusion:

"If the oil companies are being asked to justify price increases during this time of crisis, then perhaps we should consider taking the pricing vehicle away from Wall Street traders and give it back to those who understand fundamentals and the real market."

## Lube Sales Down Slightly in '89 With Only Minor Changes

The National Petroleum Refiners Assn. (NPRA) says U.S. sales of lubricants and by-products varied slightly in 1989 with hardly enough

change to make a noticeable difference.

Here's the NPRA chart for the last three years, with 1987 being the peak year:

| Automotive/Industrial Lubricants<br>(millions of gals.) |       |       |       | Automotive Oil Sales<br>By Channel of Distribution |           |           |           |
|---------------------------------------------------------|-------|-------|-------|----------------------------------------------------|-----------|-----------|-----------|
|                                                         | 1987  | 1988  | 1989  |                                                    | 1987      | 1988      | 1989      |
| Total Oils                                              | 2,427 | 2,415 | 2,393 | Retail                                             | 807,016   | 749,503   | 780,111   |
| Total Grease                                            | 56    | 53    | 55    | Comm.                                              | 483,815   | 424,165   | 473,341   |
| Total                                                   | 2,483 | 2,468 | 2,448 | Factory Fill                                       | 59,941    | 65,841    | 58,504    |
|                                                         |       |       |       | Undist.                                            | 78,819    | 164,011   | 93,417    |
| By-products                                             |       |       |       | Total                                              | 1,430,591 | 1,403,520 | 1,405,373 |
| Aromatic Oils                                           | 89    | 81    | 87    |                                                    |           |           |           |
| Total Waxes                                             | 244   | 252   | 248   |                                                    |           |           |           |



# Progress Report on State

One by one, over the past year, states throughout the U.S. have been getting their underground storage tank regulations into place. Many states have also adopted trust funds for cleaning up underground storage tank leaks.

So far, approximately 19 states have adopted the EPA's minimum technical

standards and financial responsibility requirements. Some states have adopted even more stringent regs to meet the volatile needs of their environment. Whatever the case, when finalized, the individual state tank regulatory programs will override the federal rules.

A number of states adopted tank cleanup

funds prior to the EPA releasing its technical standards and financial responsibility requirements for tank owners and operators. But most of these have been revised to meet the federal mandates.

Several insurance companies have also been dovetailing their policies around state trust funds to help ease the financial

| State       | Cleanup Fund                                                                                                                                                                                                                                                                                                                                                                          | EPA Approved  | Mandatory Participation | Funding Mechanism                                            |
|-------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|-------------------------|--------------------------------------------------------------|
| Alabama     | ...is recognized as providing financial responsibility for owners.                                                                                                                                                                                                                                                                                                                    | Yes           | Yes                     | \$10-\$150/tank fee                                          |
| Alaska      | ...is a loan grant to cover contamination. If tank meets 1998 standards, registration is \$50; otherwise, \$150-\$500. Must have tank testing and site assessment within one year of registration. State will reimburse 50% of costs up to a certain limit. Fund will be cut off in 1994. No new applications after that; however, clean-ups do not have to be finished by that date. | No            | Yes                     | (See Fund)                                                   |
| Arizona     | ...has a \$5,000 deductible=\$145,000 coverage; \$25,000 deductible=\$225,000 coverage. After 12/31/91, After 12/31/91, \$5,000 deductible=\$130,000 coverage; \$25,000 deductible=\$200,000.                                                                                                                                                                                         | Pending       | Yes                     | 1¢ gal. + \$100/tank fee                                     |
| Arkansas    |                                                                                                                                                                                                                                                                                                                                                                                       | Conditionally | Yes                     | .2¢ gal. + \$35/tank fee                                     |
| California  | ...is a reimbursement fund, not an insurance program, effective until 1/1/98. Being reviewed.                                                                                                                                                                                                                                                                                         | No            | Yes                     | \$200/tank fee + gal. fee expected                           |
| Colorado    | ...drops below \$1.5 M, the surcharge will be doubled. Legislation pending.                                                                                                                                                                                                                                                                                                           | No            | No                      | \$30/tank fee + \$25-\$30 surcharge                          |
| Connecticut |                                                                                                                                                                                                                                                                                                                                                                                       | Pending       | Yes                     | 3% gross earnings from quarterly sales of petroleum products |
| Delaware    |                                                                                                                                                                                                                                                                                                                                                                                       | No            | No                      | \$1 M appropriation from state revenues                      |
| Florida     | ...is retroactive if reported before 12/31/88 and costs incurred after 1/1/85. Bbl. tax is 30¢ to bring the fund up to \$15 M. Can be reduced to 10¢/bbl.                                                                                                                                                                                                                             | Pending       | No                      | \$50/tank fee + \$25 renewal fee and /bbl. tax               |
| Georgia     |                                                                                                                                                                                                                                                                                                                                                                                       | Pending       | No                      | .1¢ gal. on imported petroleum products                      |
| Hawaii      | ...is at the research stage. State legislature has passed a bill to set up a guaranteed fund to meet federal regs.                                                                                                                                                                                                                                                                    |               |                         |                                                              |
| Idaho       | ...generates \$9 M a year.                                                                                                                                                                                                                                                                                                                                                            | No            | No                      | 1¢ gal. bulk on products + \$25/tank fee                     |
| Illinois    | ...is retroactive prior to 7/28/89, but there is a higher deductible (\$50,000-\$100,000). Must provide an insurance statement to verify. Claim is filed with insurer first, if available.                                                                                                                                                                                            | Yes           | Yes                     | .66¢ bulk delivery fee                                       |
| Indiana     | ...is a liability fund. Expect to generate \$10 M/yr. Also have a state guaranteed loan program for small owners/operators for upgrading.                                                                                                                                                                                                                                             | No            | Yes                     | \$290/tank fee; state insurance \$2.5 M/yr.                  |
| Iowa        | ...participation must be in by 10/90.                                                                                                                                                                                                                                                                                                                                                 | Pending       | Yes                     | .85¢ gal.+ \$65/tank fee                                     |
| Kansas      | ...deductible is \$5,000, 1-4 tanks; \$10,000, 5-12 tanks; \$20,000, 13-98 tanks; \$60,000, 99+ tanks.                                                                                                                                                                                                                                                                                | No            | No                      | 1¢ gal. motor fuels                                          |
| Kentucky    | ...is to be administered by a commission not yet appointed.                                                                                                                                                                                                                                                                                                                           | No            | Yes                     | .04¢ gal.                                                    |
| Louisiana   |                                                                                                                                                                                                                                                                                                                                                                                       | Yes           | Yes                     | \$100/tank fee                                               |
| Maine       | ...is 44¢/bbl. gasoline; 25¢/bbl. refined petroleum products other than gasoline. In 1/94, 48¢/gas, 27¢/petroleum products. Major oil companies, government not eligible.                                                                                                                                                                                                             | Pending       | Yes                     | (See Fund)                                                   |



# Regs and Cleanup Funds

burden tank owners are being faced with.

State cleanup funds do not, in many cases, cover the entire costs for cleaning up a release; rather, they provide financial assistance to marketers. The funds help marketers meet EPA regs which require that owners of underground tanks be financially able to remedy any leaks and

compensate third parties for property damage caused by accidental releases from the USTs. However, there are some state trust funds which are very comprehensive.

Most of the funds compensate for on-site spills (damages to property owned by the insured) and off-site releases (property

off the initial leak site). However, many of the tank funds do not compensate for third party bodily injury.

The table beginning below provides an updated state-by-state accounting of what is being mandated to date in each of the 50 states, plus the status of the trust funds in those states.

| Cleanup                                                                 | Third Party | Deductible                               | Work With Insurance | State Regulations                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-------------------------------------------------------------------------|-------------|------------------------------------------|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| \$1 M                                                                   | \$1 M       | \$5,000                                  | Yes                 | ...differ from EPA in that action limits on contamination require 30-day prior notification before closing or installing tank.                                                                                                                                                                                                                                                                                                               |
| \$1 M                                                                   | \$1 M       | \$2,500                                  | Yes                 | ...give DEC the authority to form regulations consistent with the EPA. Anticipate those in force by 3/1/91. At first, they cannot be stricter than the federal regs. Each year they must report back to the legislature on the number of tanks registered, number of cleanups and how the money is being spent. At that time, they can show areas that may need regulation not covered in the federal regs or areas that should be stricter. |
| (See Fund)                                                              | (See Fund)  | (See Fund)                               | Yes                 | ...became effective in 1986 and they mimic UST requirements suggested in the Resource Conservation and Recovery Act. New rules are in the process of promulgation and won't be in effect until mid-1991.                                                                                                                                                                                                                                     |
| \$1 M                                                                   | \$1 M       | \$25,000                                 | Yes                 | ...are the same as EPA regs, however, installers must be registered.                                                                                                                                                                                                                                                                                                                                                                         |
| \$1 M                                                                   | \$1 M       | \$50,000                                 | Yes                 | ...are more stringent than the EPA's in that they require secondary containment, permit for tank owners and installer certification.                                                                                                                                                                                                                                                                                                         |
| \$1 M                                                                   | \$1 M       | \$10,000 cleanup<br>\$25,000 third party | Yes                 | ...became effective 11/90. State oil inspector enforces regs, however, the State's Attorney would be called in if they need help.                                                                                                                                                                                                                                                                                                            |
| \$1 M                                                                   | \$1 M       | None                                     | Yes                 | ...are currently under review. Regulators are working on two drafts of regulations to merge with EPA requirements. The state has full authority to recover all expenses, plus more, for any violation.                                                                                                                                                                                                                                       |
| \$1 M                                                                   | \$1 M       | \$2,500                                  | N/A                 | ...are in the process of updating to comply with federal regs. Updated schedule will be more stringent.                                                                                                                                                                                                                                                                                                                                      |
| \$1M                                                                    | \$1 M       | \$500-\$25,000                           | Yes                 | ...became effective 11/90. Require secondary containment on new piping. Also have regs that protect portable wells.                                                                                                                                                                                                                                                                                                                          |
| \$1 M<100 UST<br>\$2 M>100 UST                                          | \$1 M       | \$10,000/occurrence                      | No                  | ...were adopted 1/90 and are the same as EPA's. Defines specific cleanup levels, protects drinking water and ground water.<br>...are in the process of being developed.                                                                                                                                                                                                                                                                      |
| \$1 M                                                                   | \$1 M       | \$10,000                                 | Yes                 | ...are the same as EPA regulations.                                                                                                                                                                                                                                                                                                                                                                                                          |
| \$1 M                                                                   | \$1 M       | \$10,000-\$100,000                       | Yes                 | ...are the same as EPA regs, however, have specific levels for clean up, soil requirements, and reporting requirements. The Fire Marshal regulates installation and removal of tanks, plus regulates heating oil tanks. Requires certification/registration of installers and removers.                                                                                                                                                      |
| \$1 M                                                                   | Yes         | \$25,000-\$35,000                        | No                  | ...are the same as EPA regs. In the process of working with the Fire Marshal to handle inspections and closures when state and EPA regulations correspond. Completion expected 12/90.                                                                                                                                                                                                                                                        |
| \$1 M                                                                   | None        | \$5,000 or<br>25% cost                   | Yes                 | ...are bound to federal regs under state legislature.                                                                                                                                                                                                                                                                                                                                                                                        |
| \$1 M/occurrence (See Fund)<br>\$1 M/agg.<100 UST<br>\$2 M/agg.>100 UST |             |                                          | Yes                 | ...were expected to be effective 11/90. Legislature adopting EPA regs by reference. Also regulate heating fuel tanks for non-single family dwellings.                                                                                                                                                                                                                                                                                        |
| \$1 M                                                                   | \$1 M       | \$10,000<5 tank<br>\$25,000>6 tanks      | N/A                 | ...are the same as EPA regulations.                                                                                                                                                                                                                                                                                                                                                                                                          |
| \$1 M                                                                   | \$1 M       | \$15,000                                 | Yes                 | ...are the same as EPA regulations.                                                                                                                                                                                                                                                                                                                                                                                                          |
| \$1 M                                                                   | \$200,000   | \$2,500-\$100,000                        | Yes                 | ...require secondary containment. Replacement schedule is more accelerated than federal regs. Do not allow retrofitting.                                                                                                                                                                                                                                                                                                                     |

| State         | Cleanup Fund                                                                                                                                                                                                                | EPA<br>Approved | Mandatory<br>Participation | Funding<br>Mechanism                                                   |
|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|----------------------------|------------------------------------------------------------------------|
| Maryland      | ...is not available.                                                                                                                                                                                                        |                 |                            |                                                                        |
| Massachusetts |                                                                                                                                                                                                                             |                 |                            |                                                                        |
| Michigan      | ...will expire in 1994. Over 400 claims submitted. Owners must show proof of financial responsibility for deductible.                                                                                                       | No              | Yes                        | .87¢ gal. refined petroleum fee                                        |
| Minnesota     | ...have settled 300 claims for \$12 M. As of 8/90, 3,000 leak sites have been filed.                                                                                                                                        | Yes             | No                         | \$10/1,000 gal. petroleum products                                     |
| Mississippi   | ...deductible after grace period 5/18/88-6/30/90.                                                                                                                                                                           | No              | Yes                        | .2¢ gal. motor fuel + \$40/tank fee                                    |
| Missouri      | ...will be operative 1/1/91. Future participation will require application and annual premium.                                                                                                                              | Pending         | No                         | \$100/tank fee                                                         |
| Montana       | ...rules will be approved by the board 3/16/90. Average 45 day processing claim.                                                                                                                                            | Pending         | No                         | 1¢ gal. gasoline; .75¢ after 6/30/91                                   |
| Nebraska      |                                                                                                                                                                                                                             | No              | Yes                        | \$25/tank fee + .3¢ gal. gasoline + .1¢ gal. diesel tax                |
| Nevada        | ...is \$1,000 for residential.                                                                                                                                                                                              | No              | Yes                        | .6¢ gal. petroleum products + tank fee                                 |
| New Hampshire |                                                                                                                                                                                                                             | Pending         | Yes                        | .6¢ fee on oil transfers transported into state                        |
| New Jersey    | ...is not available.                                                                                                                                                                                                        |                 |                            |                                                                        |
| New Mexico    | ...pays first \$25,000 per incident plus 50% between \$200,000 and \$1 M.                                                                                                                                                   | No              | Yes                        | .2¢ gal. tax on gasoline and special fuel entering state               |
| New York      | ...does not serve as financial responsibility.                                                                                                                                                                              | N/A             | Yes                        | 4¢/bbl. >400,000 gal.                                                  |
| No. Carolina  | ...is residential.                                                                                                                                                                                                          | Pending         | Yes                        | .125¢ kerosene tax \$45/tank fee <3,500 gal. \$70/tank fee >3,500 gal. |
| North Dakota  |                                                                                                                                                                                                                             | Pending         | Yes                        | .225¢ gal. tax; \$25/tank fee                                          |
| Ohio          |                                                                                                                                                                                                                             | Yes             | Yes                        | \$150/tank fee                                                         |
| Oklahoma      |                                                                                                                                                                                                                             | Yes             | Yes                        | 1¢ gal. for gasoline, diesel, blending fuels                           |
| Oregon        | ...is not available. State has a LUST Fund.                                                                                                                                                                                 |                 |                            |                                                                        |
| Pennsylvania  | ...is not available. State has a LUST Trust Fund. UST indemnification board is in the process of organization.                                                                                                              |                 |                            |                                                                        |
| Rhode Island  | ...is not available. Will propose legislation again in 1/91.                                                                                                                                                                |                 |                            |                                                                        |
| So. Carolina  |                                                                                                                                                                                                                             | No              | Yes                        | \$100/tank fee + .5¢ gal. terminal fee                                 |
| South Dakota  | ...board can waive 80% of deductible, if release is discovered while upgrading. Financing is available through PECA and SBA's 7A Loan Program.                                                                              | Pending         | Yes                        | 1¢ gal. gasoline/distillates sold                                      |
| Tennessee     | ...deductible is 1-12 tanks, \$10,000 cleanup, \$10,000 third party; 13-999 tanks, \$20,000 cleanup, \$37,500 third party. Should generate \$1 M/mo. Avg. \$50 M to hwy. dept. Currently inspecting to verify registration. | Pending         | Yes                        | \$125/tank fee + .4¢ gal. tax                                          |

| Cleanup         | Third Party     | Deductible                                                    | Work With Insurance | State Regulations                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-----------------|-----------------|---------------------------------------------------------------|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                 |                 |                                                               |                     | ...require certification of installers; tighter schedule on reporting of spills.<br>...are stricter in water supply areas, especially near major surface water areas, reservoirs and other major water supplies. Regulate heating oil tanks in these areas. Also, accelerated closure on sub-standard tanks (unprotected steel, concrete, unknown). Mandate double-wall tanks and secondary containment for piping. Permit is required before installing, removing or upgrading.                                                                                                                                                                                                        |
| \$1 M           | \$1 M           | \$10,000                                                      | N/A                 | ...basically mirror the EPA's. One of the most notable differences is that it requires all unused tanks be removed from the ground. The Fire Marshal has the authority to institute stricter requirements, mandate spill protection and institute inspections prior to use.                                                                                                                                                                                                                                                                                                                                                                                                             |
| \$1 M           | \$1 M           | 10% up to \$100,000                                           | N/A                 | ...have been modified to include regulating heating oil tanks 1,100-gal. or more. Notification is required for state inventory of tanks. Owners and operators must report changes and give a 10-day notice for removal and 30-day notice for installation.                                                                                                                                                                                                                                                                                                                                                                                                                              |
| \$1 M           | \$1 M           | \$10,000 third party<br>\$5,000 cleanup                       | No                  | ...have been adopted by reference mimicking EPA regs. The enforcement body in the state is the Mississippi Dept. of Natural Resources.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| \$1 M           | \$1 M           | 100% 1st \$25,000<br>50% 2nd \$25,000<br>25% \$50 M to \$10 M | Yes                 | ...are stricter than the EPA's on removal and closure. Have very specific sampling levels. Also, protect groundwater.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| \$1 M           | \$1 M           | 50% 1st \$35,000                                              | Yes                 | ...are similar to EPA regs except they include farm tanks. These regs cover small farm and heating oil tanks as well as piping.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| \$1 M           | None            | \$10,000-\$25,000                                             | Yes                 | ...are somewhat stricter than EPA's. The program regulates all phases of installation and some phases of removal.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| \$1 M           | \$1 M           | \$25,000                                                      | No                  | ...are the same as EPA regulations.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| \$1 M           | \$1 M           | \$5,000-1 facility<br>\$20,000-2-19 fac.<br>\$30,000-20 fac.  | Yes                 | ...require secondary containment and regulate home heating oil tanks. Legislation still pending to bring the remainder up to EPA standards. Regulations enforced by the Dept. of Environmental Services.<br>...are more stringent than federal regs, especially where there are storage tanks above sole source aquifers. The new legislation requires daily or continuous monitoring and spill/overflow protection.                                                                                                                                                                                                                                                                    |
| (See Fund)      | None            | None                                                          | None                | ...require a tank fee of \$75 per year (pending new legislation effective early 1991) and notification of a spill greater than 25-gal.. Require notification of major modifications or construction. Owner is accountable instead of owner/operator as in federal regulations.                                                                                                                                                                                                                                                                                                                                                                                                          |
| \$1 M           | \$1 M           | None                                                          | Yes                 | ...are more stringent than the EPA's; have been in place since 12/85. Registration, installation, testing, removal and closure specification of bulk storage tanks is required. Other areas include secondary containment on tanks and piping.                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| \$1 M aggregate | \$1 M aggregate | \$50 M cleanup<br>\$100 M tank/occurrence                     | Yes<br>Yes          | ...are expected to be effective 10/90. Legislation has been proposed. Debating double-wall containment, upgrading and release detection.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| N/A             | N/A             | N/A                                                           | Yes                 | ...require advance written notice for removal. Not real strict on 30-day policy.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|                 |                 | \$50,000<br>\$10,000<6 tanks                                  | Yes                 | ...mimic federal regs, but in the process of writing state regs.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| \$1 M           | \$1 M           | \$5,000                                                       | No                  | ...requires state licensed installers. Proposing cleanup action levels for the soil. Also, regulate ethane base antifreeze tanks.<br>...are the same as EPA regs. Regulate simple soil contamination levels. DEQ enforces.<br>...govern ASTs and USTs. The state requires tank registration, certification of installers and inspectors and yearly inspection with the Dept. of Natural Resources conducting follow-up investigations.<br>...have been in place since 1984 and are as stringent as the EPA's. There are some exceptions. For example, the state's tank testing program, started in 1986, is considered to be tougher than the EPA's. State regs are still under review. |
| Rehabilitation  | None            | \$25,000                                                      | Yes                 | ...are the same as EPA regs, except state requires permits to construct and operate. Transfer of ownership requires site assessment.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| \$1 M           | None            | \$10,000                                                      | Yes                 | ...have been in place since 11/89. These regs basically follow EPA mandates, however, they regulate both ASTs and USTs with varying compliance dates.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| \$1 M           | \$1 M           | (See Fund)                                                    | Yes                 | ...are the same as EPA regs with the exception of groundwater monitoring.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

| State         | Cleanup Fund                                                                                                                                                  | EPA Approved | Mandatory Participation | Funding Mechanism                                                                      |
|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|-------------------------|----------------------------------------------------------------------------------------|
| Texas         | ...is \$12.50/yr. for <2,500 gal.; \$50/yr. 8,000-9,999 gal. \$10,000 \$25 each in 5,000 gal. increments.                                                     | Pending      | Yes                     | (See Fund)                                                                             |
| Utah          | ...requires owners and operators to pass tank tightness test for eligibility.                                                                                 | Pending      | Yes                     | \$250/tank fee<br>\$150 after 6/30/90                                                  |
| Vermont       | ...is in effect until 7/1/94. Can file claims until 7/1/96. Tank fee depends on facility and gallons sold.                                                    | Yes          | Yes                     | 1¢/gal. motor fuel;<br>\$100-\$200/tank fee                                            |
| Virginia      |                                                                                                                                                               | Pending      | Yes                     | .2¢ gal. motor fuel tax                                                                |
| Washington    | ...is similar to LUST Fund.                                                                                                                                   | No           | Yes                     | .7¢ of 1% x wholesale value of hazardous wastes and petroleum tax on wholesale imports |
| West Virginia | ...is an insurance fund expected to be finalized and in place by the end of 1990. One time capitalization fee to all tank owners. Mandatory to start up fund. |              |                         |                                                                                        |
| Wisconsin     | ...was effective as of 7/31/90; 1,187 claims processed. 183 paid \$8,253,605.66.                                                                              | Yes          | No                      | 11.6¢/50 gal. bbl.                                                                     |
| Wyoming       | ...has total amnesty to participate and receive funding. Register, perform minimal site assessment, stop release.                                             | No           | Yes                     | \$200/tank fee<br>+ 1¢ gal. tax                                                        |



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### Continued from page 3

Keith Angell, regional operations manager, Groundwater Technologies, Inc., Norwood, Mass., concurs. He adds that a multidisciplinary firm should have staff experienced in hydrocarbon remediation up through site closure.

A qualified firm in soil and groundwater remediation should offer the following:

- A thorough understanding of local, state and federal regulations regarding UST contamination.
- A good working rapport with government agencies and experience with negotiating approvals and permits.
- A solid working knowledge of the proper paths required to complete a project in a timely and cost-effective manner.
- Experience in serving as expert witnesses in court, including a proven track record on remediation procedures that are not only effective, but legally defensible.

Look for firms that offer quality services at competitive prices, Angell says.

Even more important than choosing a consulting firm, Angell says, is for retailers to institute their own systematic approach for dealing with product releases. This makes it possible to control related costs, liabilities and exposures.

Angell says such a program should immediately identify imminent hazards, the extent and impact of the loss, the principal responsible parties for the cleanup, ap-



| Cleanup                                      | Third Party | Deductible                                                    | Work With Insurance | State Regulations                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------------------------------------|-------------|---------------------------------------------------------------|---------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| \$1 M                                        | None        | \$10,000                                                      | Yes                 | ...require a 30-day prior notice for installation and abandonment, strenuous registration requirements and spill/overflow protection required by 1994, not 1998 as mandated by the EPA. State regs require cathodic protection on all tanks; however, tanks over 10 years old don't require internal inspection before applying cathodic protection.                                                                                                                                                          |
| \$975,000                                    | \$300,000   | \$25,000                                                      | Yes                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| \$1 M                                        | \$1 M       | \$10,000 cleanup<br>\$0 third party                           | N/A                 | ...are generally more stringent than EPA requirements. Legislation has been proposed which includes testing program for existing tanks, secondary containment requirements and new construction.                                                                                                                                                                                                                                                                                                              |
| \$1 M                                        | \$1 M       | \$50,000 cleanup<br>\$200,000 aggregate                       | Yes                 | ...are generally the same as EPA rules, with the exception of regulating heating oil tanks at 5,000 gal. Requires permits from building officials.                                                                                                                                                                                                                                                                                                                                                            |
| \$1 M                                        | None        | None                                                          | Yes                 | ...are somewhat more stringent than EPA's regs. Requirements include 60-day notice prior to installation; and stricter spill/overspill reporting. Tank closures must be permanent or upgraded within 30 days after 1 year; require site assessment at closure for tanks using external release detection; require permanent closure within 30 days of 30-day notice; require licenses for tank inspection, installation and testing. ...mimic EPA regs. Also, require 30-day notice after tank is in service. |
| \$1 M<br>\$195,000 AST<br>\$7,500 max payout | \$1 M       | \$5,000                                                       | Yes                 | ...are similar to EPA's. The state has two departments that handle federal UST regulations. The Dept. of Industry, Labor and Human Relations participate in petroleum inspections for USTs. The Dept. of Natural Resources handles cleanup under the state's spill law.                                                                                                                                                                                                                                       |
| \$1 M                                        | \$1 M       | \$30,000 financial<br>responsibility<br>\$0 corrective action | Yes                 | ...follow EPA regs. Enforced by DEQ.                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

plicable regulations, agency priorities and cleanup criteria, appropriate remedial action, installing and operating remedial systems and methods for attaining closure.

"In the unfortunate event of a spill, a retailer's greatest asset in conducting a fast and effective cleanup and remediation are the services of an experienced environmental consultant," says Angell.

A reputable firm will quickly diagnose the nature and extent of the problem and, in most cases, recommend the best of many potential treatment options, as well as guide retailers through a maze of compliance requirements.

Angell explains that a good consulting firm will also have computerized project management capabilities, understandable accounting procedures making it clear what is being paid for, insurance (including environmental impairment), comprehensive in-house capabilities which limit excessive subcontracting costs, i.e. tank testing, line testing, risk assessment, drilling etc.

He also suggests that a retailer select a consulting firm before a major environmental problem crops up.

"In the selection process, first retain a firm to do some simple and relatively inexpensive site auditing. This makes it possible to make an unhurried judgment about which firm is best qualified to help in the event of an environmental emergency."

## Recent EPA Approval of New Leak Detection Method to Save Tank Owners Millions!!

USTMAN Industries, Inc. is excited to announce EPA's recent formal approval of Statistical Inventory Reconciliation — **SIR**. The **USTMAN SIR System**, is a stand-alone underground storage tank leak detection method which heralds a quantum leap forward in simple and low cost regulatory compliance.

With the independently certified and innovative **USTMAN SIR System**, computerized leak detection for both tanks and piping becomes hassle free at approximately one-half the cost (or less) of conventional methods.

So, if you're tired of spending a small fortune on leak detection, try the **USTMAN SIR System** — You'll be glad you did!



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Englewood, CO 80111  
(303) 721-9897 or 1 800-253-8054



## Exclusive Service Station Survey

# Study Looks at UST Age, Numbers

That the new underground storage tank regulations have hurt the retail gasoline business is news to nearly no one. However, no segment has been hit harder than the independent service station dealer.

Numerous studies of the regulations' impact on stations have been conducted by independent agencies, associations and the government itself and all point to a further shrinkage in the traditional service station universe as a direct result of the

UST regulations.

About the only thing in doubt are the numbers; how many stations will be forced to get out of the gasoline business or close altogether? Only the coming years will tell.

For now, however, we have a grasp on how many tanks are under the typical service station and the median age of those tanks. As part of Hunter Publishing's Traditional Aftermarket Profile survey conducted earlier this year, a random sampling of service station dealers were asked about the USTs at their stations. Here's a look at the results.

For the purposes of this study, a traditional service station is defined as any retail location (either company-, jobber- or dealer-owned) that sells gasoline and auto repair services.

Based on Hunter Publishing figures, the traditional station universe consists of approximately 90,000 locations across the U.S. Previous company surveys have determined that about half of all the traditional service stations are owned by the dealer who operates them.

First, as the accompanying chart shows, the vast majority of dealers say there are between two and four USTs at their stations. Taking survey information a step further, the median number at the typical service station is 3.43 USTs, an increase of about 40% from the station heydays in the 1960s. This increase supports the notion of a trend toward larger stations, more

storage capacity and more product diversity at service stations.

The next chart examines the average age of the USTs at America's service stations. The survey found that more than one third of all stations are equipped with USTs that are five years or less in age. On the down side, the survey also revealed that 13 percent of the dealers in the survey reported their tanks are 25 years or older.

Further examination of the figures shows that the median age of service station USTs is 12.22 years.

The first pie chart (See Figure 1) shown on this page reveals that only one dealer in five has chosen to reline his tanks as one option for preventing leaks from USTs.

Leak detection monitors and equipment appear to be making strong inroads into the service station arena as the next chart attests. Nearly half the dealers in our survey report some form of leak monitor installed on their equipment.

Likewise for UST insurance. The prospects of multi-million dollar liability actions being brought against a dealer's business has prompted many to sign leak liability plans. Others are covered by one of the state-run UST insurance programs that have sprung up in the past three years.

Liability insurance remains out of reach for many thousands of independent dealers across the country and, until the situation is remedied, these dealers remain in a perilous position regarding their continued business operations.

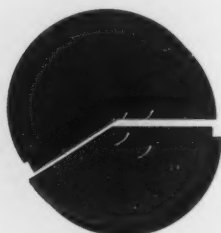
Have Tanks Been Relined?



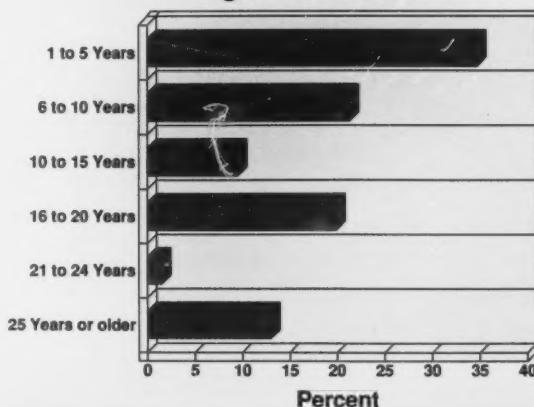
Leak Monitor Installed?



USTs Have Leak Insurance?



Age of USTs?



# The Outlook for Fuel Oil: Expect More Market Erosion

The price fluctuations that have slammed into the oil heating business like a mid-Atlantic hurricane have turned out to be a dream for speculators...but a nightmare for dealers.

Expect the oil heating industry to lose as much as 5% of its market share by the end of this heating season, thanks to the latest round of price increases. The current escalation, the second since last December, seems to be the final straw for many consumers, who see natural gas as a cheaper and more reliable alternative.

In today's society, image elects presidents and evidently controls the fate of heating fuels as well. That's the conclusion of analysts who regard the current price escalation of petroleum products as a major threat to home heating oil market share, shaky at best after last December's run-up.

That "spike," the result of mysterious circumstances which were never fully explained to the satisfaction of anyone, would have been much worse had the winter's weather not turned mild following the December deepfreeze. Although that price increase was short-lived, it was still fresh in the minds of consumers when the Iraqi situation brought about another sharp upturn in the cost of heating oil.

Another dreadful development for the fuel oil industry is the proposed federal tax on petroleum products, including home heating oil. Oil heat groups throughout the East were immediately mobilized to lobby against passage of the tax, despite the insistence by Congress and the Bush Administration that such revenues were mandatory in order to reduce the federal government's staggering debt. The main thrust of their argument against the proposed tax (beside the fact that it further increases the price of oil) is that it discriminates against heating oil marketers since there is no comparable tax on natural gas, propane or electricity.

## No shortages yet

Although there have been no signs of supply shortages (and in fact mid-October primary distillate stocks were more than 10-million barrels above the same period a year ago) the perception remains that price increases are a precursor of supply interruptions and run-outs. This image is a legacy of the gasoline lines of the 1970s,

despite the fact that home heating oil users were never without product during either of the so-called oil crises. "Homeowners just get fed up," concludes one analyst who regularly monitors consumer trends for major industries.

Naturally, retail fuel merchants were accused of price gouging as soon as prices began to escalate just days after Kuwait was annexed and long before such events should have impacted oil prices. The fact that the Iraqi situation occurred in the summer meant that the gasoline market was the primary focus of the increases in the beginning. Investigations were launched by various legislative bodies and the U.S. Justice Dept., which by mid-October

consumers that they're cheaper and more dependable," an industry source said. "The oil industry has been able, for the most part, to counter these arguments, but the price spikes totally destroy their credibility."

## The industry's response

In an effort to fend off the bad press surrounding price increases, the oil industry abruptly revised its marketing strategy soon after it became evident that utilities would attempt to capitalize on soaring oil prices. The "Don't Fall for the Gas Line" theme that had been used this past spring in major East Coast media was shelved and replaced with a series of ads



Price fluctuations caused by the Middle East crisis have put home heating oil dealers at a competitive disadvantage. The industry faces a loss of up to 5% in market share by the end of the heating season.

tober had stepped up antitrust hearings and had issued subpoenas to a number of major oil companies and independents for internal marketing and pricing documents. A spokesperson for the Justice Dept. said the investigation would continue "until we determine whether or not violations of antitrust law contributed to the rise in gasoline prices."

While all this was going on, the price of home heating oil was quietly escalating as much as or more than gasoline, with little or no notice by lawmakers who were too busy worrying about increased motor fuel prices. Oil heat's competitors, on the other hand, were busy taking advantage of the opportunity.

"The gas utilities are continuously spending many millions of dollars to tell

that stressed the historic competitiveness of gas and oil prices. According to a spokesperson for the East Coast Energy Council, a coalition of oil heat associations from New England to Virginia, the unanimous decision to develop a new advertising campaign rather than use the "Gas Line" ads came about because of the uncertainty surrounding the Iraqi crisis. "The 'Gas Line' campaign simply wasn't appropriate due to recent price increases," said James Devine, executive director of the ECEC. "The new campaign acknowledges recent price changes but reminds consumers that the estimated \$2,000 cost of converting to gas will never be recouped."

The revised campaign concentrates exclusively on print and radio ads. The radio

By George Schultz  
Contributing Correspondent

markets were saturated with over 400 spots per week from September until Thanksgiving. "Our message is not easily expressed in a 30-second television commercial," Devine explained. "In a changing 'crisis' environment, radio is the key medium, not TV." Devine also notes that television production costs could be prohibitive as the advertising message might need to be modified as world events change.

Despite these efforts, utilities throughout the Northeast report that conversions from oil to gas have risen dramatically, almost to the levels of the early 1980s when the oil heating industry lost more than a million customers.

### How much bleeding?

Experts agree that the fact that the trouble began in August instead of December has helped the heating oil industry to a certain degree, since it has given them some time to prepare for irate customers once the cold weather begins.

Despite this, there has still been tremendous difficulty in market reaction. In New Jersey, for example, heating oil prices went up more than 40% by mid-October, with a resulting flood of inquiries to gas utilities about conversions.

New Jersey, a key oil heat stronghold, has been vulnerable to losses to other fuels for a number of reasons. Its affluent demographics, coupled with aggressive marketing campaigns by well-heeled utilities, have resulted in a significant reduction in the number of the oil heat homes. The Fuel Merchants Assn. of New Jersey (FMANJ), which once boasted as many as 1,000 heating oil marketer members, now has fewer than 400. This attrition, although partly the result of acquisitions and consolidations, demonstrates how the market has shrunk in the past decade. About 1.2-million homes in New Jersey are currently heated with oil. In 1980, this figure approached 3-million.

FMANJ officials acknowledge that this year's tug-of-war for heating customers is particularly bloody, with utilities like Public Service Electric & Gas Co. (PSE & G) and Elizabethtown Gas Co. (Etown) seizing on the price situation with intense media placement that has been effective in promoting conversions.

How effective? PSE&G reported a 20% increase in



In-house service departments are deemed crucial for marketers who want to retain home heating oil customers.

inquiries as a result of its marketing efforts. In September, the company converted 1,317 customers from oil to gas, a 14% increase over last year. Etown Gas said the number of inquiries it received about conversions went up from 466 calls during August and September 1989 to 1,466 during the same period this year. Officials also noted that conversions had already been rising as a result of the increases in heating oil prices last December. Other state utilities report similar

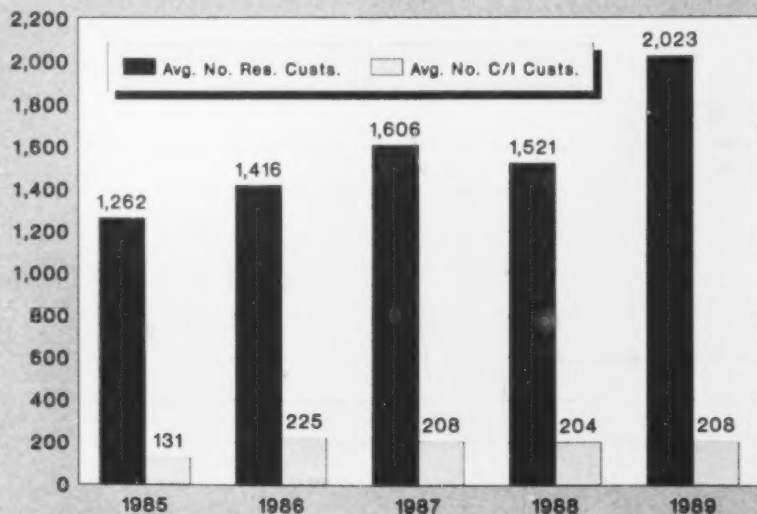
increased interest in oil-to-gas conversions.

### Who profits?

Beside the utilities, the current surge in oil prices seems to be a boon to speculators, who live and die by market fluctuations. Stable oil prices are no fun for them, so they're reveling in the current roller coaster ride the Middle East situation has created.

On a typical day in mid-October, for

**Average Number of Customers Per Fuel Oil Marketer  
1984-1989**





example, oil prices seesawed wildly on the futures market, first jumping into record territory above \$41 a barrel, then tumbling again after a rumor was spread about the death of Saddam Hussein. Home heating oil prices on the New York Mercantile Exchange (NYMEX) mirrored the ups and downs of crude, finally settling at just over \$1.01 per gallon, a drop of more than 5¢ from the previous day. Still, the price was almost twice as high as the lifetime low for

November 1990 futures (51.3¢ gal.). Two days later, the price had bounced up another nickel per gallon. For one 42,000 gal. trading contract, that 5¢ represents a swing of \$2,100.

Critics of commodity trading were quick to accuse speculators of initiating the increases. One lawmaker called for regulators to take a closer look at the way business is conducted on the Merc. "The teeth of these speculator sharks are ripping

away at the muscle of our economy," said Sen. Joseph I. Lieberman (D-CT), who suggested that oil speculators be forced to put up more money when they make deals (traders are currently required to put up about 20% to 25% of the value of futures' contracts). He also said traders should be limited in the amount of oil that can be traded at one time.

NYMEX, in response, noted that it has raised the amount investors must now put up to make oil deals to what officials believe is an appropriate response to the recent wild fluctuations. Trading limits are basically 1-million barrels for next month's delivery, but for big oil companies, the limits can be raised to an undisclosed amount.

Meanwhile, the *Wall Street Journal* reported in early October that oil state banks haven't benefited from increased oil prices. Southwestern banks reported flat results for the third quarter of 1990, with some analysts predicting that the run-up in oil prices could actually prove detrimental to Oil Patch state economies and, therefore, to banks in the region, the *Journal* said. "Since the last boom-bust cycle in the oil industry, many of these economies have diversified into industries more closely linked to the general U.S. economy. Thus, the reasoning goes, if higher energy costs cause a recession in the rest of the U.S., states such as Texas will suffer too."

#### Other industry problems

As if high prices and intense competition weren't enough headaches for oil heating marketers, the industry suffered recent setbacks in other areas as well. In mid-September, a Federal Energy Regulatory Commission (FERC) administrative law judge ruled in support of the 370-mile Iroquois pipeline, destined to bring Canadian natural gas into the Northeast. The pipeline was considered a major threat to oil heat's market share in what is the last region of the U.S. in which gas does not have an overwhelming majority of residential customers.

The FERC judge found that since the Canadian gas is needed to meet projected demand, the project would not be unfair to domestic gas producers who have argued that domestic gas will be discriminated against if the project is approved without modifying the rate structures. This "unholy alliance" between oil heat and domestic gas producers was thought to be a key tactic in the battle against the pipeline, since it enabled the oil heating industry to benefit from the "big guns" of the gas producers.

The project was slated for final review by the commissioners of FERC in November, and opponents were expected to lobby against the pipeline feverishly. The dis-

# IF YOU THINK GAS HEAT WILL SAVE YOU MONEY, HERE'S A LITTLE HISTORY LESSON.

Changes in recent prices for heating oil have made you a little hot under the collar. That's understandable. The situation in the Midwest has caused a price increase that quite possibly has you concerned. But before you give much thought to switching to gas heat, here's some information that will prove you've been smart to stay with oil all along.

#### SWITCHING TO GAS WOULD HAVE COST YOU MORE.

Why? Because the cost of converting to gas heat is approximately \$2,000. That's right, \$2,000! And the only way this huge outlay of money could ever pay off for you is if the disparity between gas and oil prices lasted for years. Fat chance.

Because history shows us that the cost differential between oil and gas is unlikely to last long enough for conversion to be worthwhile. So you'll spend \$2,000. But you won't get the savings you expect.

Now obviously the few price fluctuations oil heat customers have experienced over the past years are no fun. Still, those who stayed with oil are better off economically than those who have chosen to switch. And history tells us we have every reason to believe this will continue to be the case.

#### MORE REASONS WHY YOU'RE BETTER OFF WITH OIL HEAT.

The Department of Energy has found that heating with oil is 16% more efficient than heating with gas. This can mean substantial savings for you as an oil heat customer when oil and gas prices even off, as they always have.

Your local oil heat dealer also must provide the kind of service the big gas companies can't or won't. Oil heat dealers have lots of other dealers competing with them, so if one doesn't serve you well, you can simply choose another. The gas company in your area is a monopoly. There is no other gas company competing with them, which means...well, you know what that means.

And if the situation in the Midwest has you concerned about the supply of heating oil, you can relax. There's more than an ample supply to get America through the winter and beyond.

Remember these facts when the gas company starts talking about their "lower" prices, and their efficiency and whatever else they like to talk about. And try not to grow impatient because of the recent price increase.

Because history has shown that where oil heat is concerned, patience literally pays off.

## **OIL HEAT** **DON'T FALL FOR THE GAS LINE.**

©1990 East Coast Energy Council

A new ad campaign was developed by the East Coast Energy Council in the wake of the Iraqi crisis. The ad reminds consumers that gas and oil are historically competitive and, that the \$2,000 cost of conversion to gas could never be recouped.

position of several additional proposed pipeline projects are said to hinge on the outcome of the Iroquois decision, so both sides have pulled out all stops in this key matter.

On the economic front, the industry was experiencing a general slowdown in activity even before the Iraqi situation emerged. Manufacturers of oil-fired heating equipment complained about poor sales throughout the spring convention season. Although attendance at the industry's major exhibition—the National Assn. of Oil Heating Service Managers, Inc., annual convention and trade show—set another record, exhibitors said interest in appliances was generally lukewarm. Other regional shows, including the FMANJ show in Atlantic City and the Pennsylvania Petroleum Assn. convention in Hershey, also reported good attendance but just so-so enthusiasm in equipment being exhibited.

It's difficult to determine how the slowdown in equipment sales translates into heating oil business by marketers since virtually all dealerships are closed corporations that don't release financial figures. However, the nation's largest heating oil retailer, Petroleum Heat &

Power Co., Stamford, Conn., is a public company and reported net earnings for the first six months of 1990 down from \$4.7 million in 1989 to \$352,000. The reason given for the drop is the record warmth that followed the December cold snap, as well as an aggressive acquisition strategy that saw Petro gobble up 22 companies in the past 18 months. Its customer base is variously estimated at anywhere between 350,000 to 600,000 throughout several Northeastern states.

### Industry strategy

This year's National Oil Heat Marketing and Promotional Conference, sponsored annually by the Petroleum Marketers Assn. of America (PMAA), convened in mid-August, just after the Mideast problem began but before the full extent of its ramifications were known. Its potential effect was not slighted, however, as the industry's experts assessed the situation as the "most serious interruption in the commodities market since World War II."

Some 300 marketers and industry suppliers got together in Boston to discuss not only the coming heating season, but the long-term plans for oil heat. Vera Haskins,

PMAA Heating Fuels Committee chairwoman, said at the beginning of the conference that she wanted its atmosphere to be "upbeat," and although the Middle East situation made that rather difficult, the event was nonetheless termed a success.

Discussed at the conference in addition to the Kuwaiti situation was the price spike of last December. It was noted that legislators, probably for the first time, began to recognize that natural gas interruptible customers were part of the marketplace and play a role in price and supply. Experts noted that as long as natural gas utilities force some of their commercial customers to switch to distillates when gas supplies are tight, future price

problems are inevitable.

Also presented at the conference was another attempt to unify the fragmented oil heat industry, which has always had a great deal of difficulty in accepting a central theme or direction since the National Oil Fuel Institute folded in the early 1970s. The latest idea, called the National Information Committee for Energy (NICE), was presented by Ms. Haskins, who wants the body to provide an information resource center to help change the public image of oil heat. The committee would in effect put forth a single industry point of view, instead of the current approach that is often varied and confusing. To fulfill this aim, Haskins has involved the National Energy Education Program, which works through 4,000 high schools and local communities in 32 states, to inform the next generation of homeowners of all the energy alternatives. "To change oil heat's image," Haskins explained, "we must start with the children."

### Oil heat's future

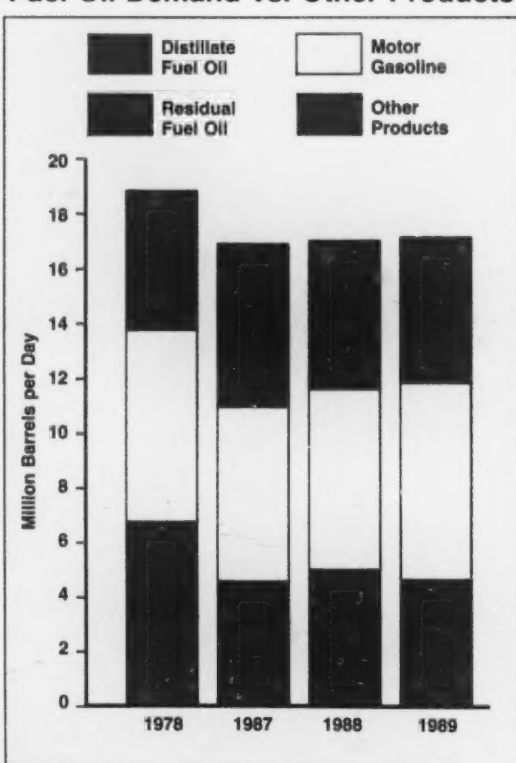
To be sure, the oil heating industry will still be around when this next generation becomes the breadwinners of society. As noted in last year's *Fuel Oil Outlook*, the industry has shown remarkable resiliency over the past quarter of a century, refusing to cave in to the well-organized, well-heeled utilities.

Even if the worst-case scenario comes to pass this heating season and the industry experiences significant erosion in its customer base, strong marketers will survive and continue to be viable enterprises well into the 21st Century.

Marketers most vulnerable will be those with poor communications channels with their customers, those which offer no service, those which offer service through sub-contractors, and those which market heating oil simply as an adjunct to other businesses. Companies that have developed good relationships with their customers can expect to maintain their market share even though they temporarily lose a competitive edge. The majority of homeowners have proven that they prefer to deal with a local company that cares about them than the ubiquitous utilities as depicted in oil heat's successful "Gas & Electric" commercials.

So while the outlook for fuel oil could be much brighter, 1990 will by no means be the end of the industry. It may well be remembered as a pivotal year because those marketers who survive will have done so by effectively marketing themselves and their products on merits other than price. This is a difficult but not impossible task. It is easy to sell with a price advantage, something oil heat enjoyed in its heyday. Having the tables turned will be an enlightening experience for many. **AN**

Fuel Oil Demand vs. Other Products



# NOTE

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Cov. 1, Pgs: 3, 5, 10, 24-28

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**NPN**

# 1991 Outlook: Rough Waters Ahead...

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## Editor's Viewpoint

### Happy New Year!

And what a New Year it is. I've decided that my resolution for *NPN* this year is to make the magazine more informative and more focused on the issues, the opportunities and the problems you face; in short, make it even more valuable to you, our readers. In turn, I hope this will help you drum up more business and squeeze out a higher level of profitability than you've probably achieved these past few, sometimes nightmarish months.

Since I took over as Editor in Chief eight months ago, I've attempted to make a start in this direction. I am confident we can make even greater strides—a pretty tall order when you are improving on a magazine that already gets high marks for journalistic performance.

This industry has been battered and bruised from all quarters over the past few months. And the outlook for 1991, as you will read beginning on p24, doesn't appear to be brightening too much, at least in the short term. Without question there's "rough water" ahead for the industry.

However, the fact that you've survived all the turmoil of this latest crisis—and several before that—shows just how resilient you are. And how innovative. If I might use an old cliché: When the going gets tough, the tough get going. As one marketer put it, "We've become specialists in survival." And that's an understatement in light of the multiple trials most marketers have had to endure.

Undoubtedly, you will face many new challenges in the years ahead. And along the way you'll discover many new opportunities—new profit streams both in petroleum marketing and in diversified enterprises. Despite the bleak picture some industry analysts like to paint, I'm convinced the petroleum market is fundamentally strong. We can't sweep the problems you've encountered in 1990 under the rug, but we can look toward tomorrow with new optimism. As 1991 begins, I hope that the months ahead will become brighter, that your business prospects will be enriched, if not immediately in dollars and cents, then perhaps in spirit.

On another note, our Factbook editors have to wrestle with all sorts of numbers and problems to create many of the tables and reports that appear in both. Last spring, when they were preparing the Share of Market tables, they had to make an estimate for the total gasoline market, not only by states but also by companies. Wrestle they did and old pro Dick Shaner came up with an estimate of 114,600,000,000 bbl. The Federal Highway Administration in late October issued its official gasoline consumption numbers: 115,557,638,000. *NPN* was off target by only eight-tenths of one percent. How's that for the kind of bull's eye info *NPN* routinely delivers to our readers? —Peggy Smedley

*NPN*—National Petroleum News (ISSN 0149-5267) is published monthly (except semi-monthly in June) by Hunter Publishing Limited Partnership, 950 Lee Street, Des Plaines, Illinois 60016, (708) 296-0770.

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Second class postage paid at Des Plaines, Illinois and additional mailing offices.

Subscriptions are solicited only from executive, management and supervisory personnel at the supplier and wholesale level of oil marketing, engaged in the distribution, merchandizing, transportation and storage of petroleum, TBA products, and convenience store items. Position, company and segment of industry must be indicated on subscription orders.



Basic subscription rates for one year to individuals in the petroleum marketing industry are: U.S. \$60; Canada \$69 (U.S. \$); Foreign surface mail \$75 (U.S. \$); Foreign airmail \$110 (U.S. \$). Non-industry personnel rates for one year are: U.S. \$75; Canada \$84 (U.S. \$); Foreign surface mail \$90 (U.S. \$); Foreign airmail \$134 (U.S. \$); Single copy price: U.S. & Canada \$9.00 (includes first class postage). Foreign \$11.00 (includes airmail postage). *Mid-June Factbook*: U.S. \$50; Canada \$60; Foreign \$70. The publisher reserves the right to accept or reject any subscription. (R) Title registered in U.S. patent office. Change of address: Notices should be sent promptly; provide old mailing label as well as new address; include ZIP or postal code. Allow 6-8 weeks for change. Send address changes, correspondence regarding subscription service or subscription orders to: Circulation Department, NATIONAL PETROLEUM NEWS, 950 Lee Street, Des Plaines, Illinois 60016. Or call (708) 296-0770, 9 a.m. to 4 p.m.

Postmaster: Send address changes to *NPN*—NATIONAL PETROLEUM NEWS, 950 Lee Street, Des Plaines, Illinois 60016.

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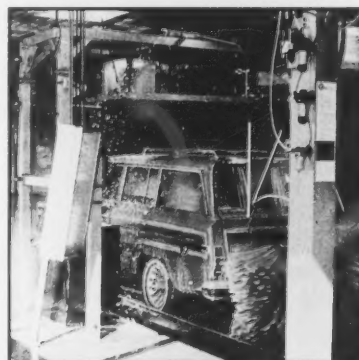
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Whether or not war flares up in the Middle East, petroleum marketers face turbulent and volatile market conditions in the year ahead. Here's the 1991 outlook.

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For Northeast and Chicago car wash operator Delta Sonic, bad weather means good business. The company has developed a "hybrid" soft cloth/spray system to take care of Snow Belt customers.

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Browning Oil, an old-line Kentucky jobbership, branched into C-stores relatively late in the game. But the payoff has been quick, with both gasoline and store sales on the upswing.

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## ● TRENDS

### Price Hikes Are Milking Premium-Grade Sales

It may be a bit too early to be definitive and positive about it, but marketplace reports indicate that the premium grades of gasoline are already taking it on the chin as a result of the Middle East crisis and skyrocketing motor fuel prices.

And there's not much likelihood that this trend will be reversed this summer or next.

The premium grades, with their 93/94 octanes and other additive features, accounted for anywhere from 10% to 60% of market shares throughout most of 1990, depending entirely on the location. It's probably safe to say that, on average, premium sales were about 40% of total marketplace consumption at the end of the third quarter.

Specific info on the decline in premium sales is hard to come by. But here are some instances from Whitney Leigh Corp., of Tulsa, Okla., which is ranked No. 2 in the collection and publication of retail gasoline data:

In the Los Angeles marketplace, the biggest gasoline market in the U.S., unleaded premium sales were 27.8% of the market in early August and 22.9% in late October, a decline of 5% in two months; Tampa, Fla., from 34.5% to 26.5% on Nov. 1, a drop of 8%; Syracuse, N.Y., from pre-Kuwait days of 22.7% to late September, 14.7%.

There's no problem with the quality of the gasoline; it's just that great gobs of motorists who hadn't objected basically to \$1.35 to \$1.50 gal. in the first half of 1990 are thinking otherwise about \$1.50 to \$2.00 gal. for their tank refills. Many are dropping all the way back to regular grades, skipping the mid-grades entirely. It must be remembered that only 25% or less of the cars on the road actually require premium grades and that many consumers responded more to ego than buying needs.

While pump retails for unleaded premium hadn't exceeded the \$2.00 gal. mark by December 1, there were some places—particularly the rural and resort areas—

where they were so close that it was only a matter of time until they did.

"People just aren't paying attention to all the hype that's around for premium fuels," one marketing authority says. "They aren't buying the brand name bit either. They learned long ago that their cars will run on just about anything and they'll pay any price to get it if necessary. But when supply is more than adequate, as it is today, price is the taskmaster—the real taskmaster."

A lot depends, naturally, on what happens in the Middle East in the first quarter of the new year—and thereafter. A January 15 deadline has been set by the U.N. for Iraq to get out of Kuwait or else.

There's much concern about the national economy, too. The experts don't agree. Some say the recession has started, others that the nation is already well down the road. A well-known TV commentator remarks "perhaps the best word is regression, which essentially means we're not going up or standing still—we're slipping."

A wartime economy will play hob with any and all projections for 1991 for everybody, not just petroleum. In that case, all bets are off, as the bookies say it.

In stalemate, gasoline prices can't help but go up, the way many economists see it. Current crude and product excesses will probably be flattened out by next spring. That'll hotten up the pressures on higher prices. So will the costs for research and reformulated or new fuels. The feds have already bumped the excise tax structure 5¢ gal., effective December 1. Is there any way for pump prices to go anywhere but up?

Is there a possibility that the future may work itself down to two grades of gasoline (assuming gasoline remains the prime fuel of mobility)—a super, high cost premium to take care of all the cars that really need it and the cities/regions that mandate it for clean air purposes, and a basic regular grade for the rest of the nation? Don't forget, in little more than a dozen years, leaded gasolines have all but vanished from the marketplaces. It could happen to unleaded, too.

J. Richard Shaner

## ● MARKETPLACE AT A GLANCE

### AVERAGE GASOLINE PRICES IN THE U.S. (per gal.)

|                | Gasoline<br>(All types) | Leaded<br>Regular | Unleaded<br>Regular | Unleaded<br>Premium |
|----------------|-------------------------|-------------------|---------------------|---------------------|
| SEPTEMBER      |                         |                   |                     |                     |
| U.S. City Avg. | \$1.431                 | \$1.354           | \$1.378             | \$1.554             |
| Regions        |                         |                   |                     |                     |
| Northeast      | 1.476                   | 1.329             | 1.401               | 1.603               |
| North Central  | 1.435                   | 1.386             | 1.392               | 1.569               |
| South          | 1.405                   | 1.356             | 1.341               | 1.517               |
| West           | 1.419                   | 1.343             | 1.389               | 1.548               |

Source: U.S. Dept. of Labor, Bureau of Labor Statistics.

### STOCKS (Add 000 bbl.)

|                      | 11/30/90 | 12/1/89 |
|----------------------|----------|---------|
| Gasoline (Total)     | 221,100  | 223,080 |
| Gasoline (Unleaded)* | 171,347  | 166,940 |
| Jet Kerosine         | 45,281   | 44,293  |
| Distillates          | 132,850  | 121,458 |
| Residual             | 51,202   | 52,557  |

\*Included in gasoline total.

Source: American Petroleum Institute.

# **1991 Outlook: War or No War, Rough Waters Ahead**



*Courtesy of U.S. Navy*

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**J. Richard Shaner**  
Executive Editor



**For oil marketers everywhere, this year and the next seven or eight are going to be more turbulent and volatile than any period they've ever faced before or had to cope with in "look ahead" planning sessions.**

They're going to exceed the traumatic price collapse of 1986, the product shortfalls and "gas" lines of the late '70s, and the religious embargo upheaval of the early '70s.

For starters, consider the possibility that the "motor fuel" of tomorrow may be vastly different from what marketers have been used to selling. This means as a hands-on consequence that storage tanks and dispensing equipment may have to be altered or redesigned—this on top of the millions that already have been spent on replacement and upgrading of all those underground storage tanks?

Then there's that pesky Middle East situation, too.

If the nations of the world, including the United States, are at war with Iraq in 1991, all bets are off, as the bookies used to say. Anything and everything could and probably will happen to the petroleum business then. The outcome depends on how long the war will last and the kind of weaponry that is employed.

Things to be feared most by marketers if war occurs would be a quick return of federal price and allocation controls, crude and product shortages, "gas lines," plus the sort of other regulatory misadventures that occurred during World War II. Even though the regulatory times and lessons of the '70s were painful for both government and industry, the bureaucrats and militarists won't delay in bringing them back. The federal government long ago considered, but shelved for the time being, enabling legislation to reinstitute regulatory controls in the event of another war.

Crises beget pessimism and this latest crisis is no different. There's little doubt there's rough water ahead for the industry. But petroleum marketers have shown time and again over the past two decades that they are a remarkably resilient and innovative group. "We've become specialists in survival," comments one Midwest marketer.

### **Belly-ups coming?**

If there's a prolonged stalemate in the Middle East, there will still be turmoil in oil marketing, precipitated by rising prices for crude and product, regardless of whether inventories are up and demand is down. A number of small companies and

independents can be expected to call it quits in 1991 and '92; the pump prices and margin squeezes will be that tough.

One big eastern independent, for that matter, looked at a room full of his colleagues partaking of the assortment of goodies provided by their suppliers in November and, with a wave of his arm, summed the situation up in this way: "They're having fun now. But if things don't change for the better, this time next year, half of them won't be here. They'll have turned up their toes or gotten out."

With the way things are now, he went on, an independent can't make enough money anymore to keep going. "All the fun's vanished too," he added. "Oil marketing—any kind of oil marketing—just isn't what it used to be."

His observations shouldn't be a surprise to savvy oil marketers. In substance, they parallel and accelerate a similar forecast by Petroleum Marketers Assn. of America (PMAA), which last year predicted that only half as many jobbers as there are now would still be in business by the year 2000.

Ignoring the war dilemma for the moment, however, serious problems are

expected to be released this summer. Some 30 different mixtures and alternative fuels ranging from reformulated gasoline to liquefied petroleum gas, natural gas, methanol, ethanol and so on, with and without additives, are being tested to see which offer the best prospects for tomorrow. In the background also are electric and battery-driven cars. They're usable now but are impractical because of their operable limitations. But who's to say how soon someone will shout "eureka, that's it!" and make them practical roadrunners?

The fuel problem is unsettled now, but sure to grow in its spectral dimensions. The Clean Air Act that President George Bush signed into law in mid-November is wonderful for what it presages for the environmentalists and the nation but sobering and more than a little scary for an industry that will have to produce the new fuels and make the necessary marketing adjustments.

Said President Bush as he flourished his signature pen:

"This bill means cleaner cars, cleaner power plants, cleaner factories, cleaner fuels [and] a cleaner America."

Said A American Petroleum Institute (API) president Charles DiBona at the API annual meeting in November:

"No one has yet made the fuel that the Clean Air Act requires by 1995. And no one yet knows how to make it."

DiBona said the performance standards will be extremely difficult to meet and "they were made worse by an unnecessary oxygen content requirement which was incorporated thanks to the self-interest of the ethanol lobby."

The API president's comments were an image reflection of similar expressions by other top industry executives.

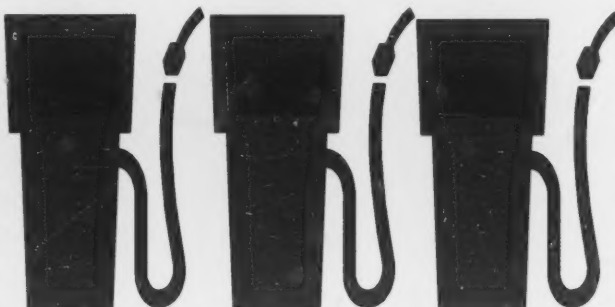
Bruce Beyeart, Chevron Oil, San Francisco, told a panel session at Society of Independent Gasoline Marketers of America (SIGMA) annual meeting, also in Chicago in November, that the deadlines for oxygenated gasoline (Oct. 15, 1992) and reformulated gasolines (January 1995) appear "almost impossible" at this particular time.

Not only that, he said, but the deadlines could easily cause gasoline shortages and run-outs in some areas and drive up retail gasoline costs "appreciably."

### **Don't count gasoline out**

But DiBona was optimistic about gasoline's role in the future. He said:

"Major changes in refineries will be needed...but the industry is committed to



facing marketers and their suppliers in the immediate future.

No one, for example, knows for sure what kind of a product he or she is going to be selling by the late 1990s, or the kind of storage tanks, dispensers and other facilities he or she will have to have to stay in business, or the types of high-tech engines and motor vehicles he or she will have to take care of.

There will be one or more "motor fuels," in the mid-to-late '90s, of course, but they won't be simple gasolines like suppliers and marketers have been accustomed to selling for most of the 20th Century. The same applies to distillates for diesel fuel and space-heating and to kerosine and liquefied gases for farm and industrial uses.

Right now millions of dollars are being spent by the oil and automotive industries on co-op research projects to find the fuel(s) of the future.

Progress reports on these experiments

achieving the task, and the technical expertise we have is the key to doing it.

"We are already producing cleaner gasolines, and we are aggressively continuing the search for the even cleaner gasolines required by the law. It won't be easy, but if it can be done, we alone can do it. And in doing it, we will ensure that gasoline is the fuel of environmental choice for decades to come."

DiBona was not about to throw in the towel for the industry. "We've weathered the ups and downs of a cyclical business," he said in Chicago, "but the notion that our best days lie in the past, that this is an industry in rapid decline, is simply wrong."

"We provide a vital commodity," DiBona said. "And while many changes will be expected of us, our contribution to the well-being of society is not likely to change in the lifetime of anyone in this room."

Environmentalists are in their heyday now and there's not much likelihood that the 1992 and 1995 deadlines for the so-called cleaner-burning motor fuels will be delayed.

"About the best I can see," says one oil industry expert, "is maybe a 20% to 25% chance of postponements and even those would be tough to come by. I'd say only a prolonged war could stave off the deadline provisions of the Clean Air Act."

Another big bugaboo for 1991 and thereafter is the way prices seem to have gotten completely out of hand after the Iraqi conquest of Kuwait.

Said one cynic: "Crude and product prices began moving about 20 minutes after the first soldier crossed the border."

It wasn't exactly that way, of course, but crude subsequently did skyrocket from about \$23 bbl. to \$40 bbl. in a matter of weeks. Just before the Thanksgiving Day weekend, crude had receded somewhat, to

the \$30 bbl. level.

### Gasoline prices

Not so with gasoline and fuel oil prices, however. Amidst consumer cries of gouging, an attitude that was shared by many gasoline and fuel oil wholesalers and retailers, pump prices for gasoline whirled up crazily to a range of \$1.50 gal. for regular to \$1.70 gal. for premium in many areas. Householders ripped heating oil dealers for charging \$1.40 to \$1.50 gal. for the first of their wintertime tanks of distillate. But dealers had no choice either. Their wholesalers went up too, as did the other products.

There is little likelihood of relief from these problems in 1991. Forecasts that supplies were more than adequate in the fourth quarter of 1990 and for the first quarter of 1991—something that should bring prices down or, at least dampen the prospects for increases—won't help at all.

## Higher Prices Are Coming In '91, Feds Say

Ignoring the possibility that a war in the Middle East would change their forecasts overnight, the federal government's petroleum experts say they anticipate higher product prices in 1991 and a small but noticeable decline in consumption.

Interestingly, government economists favor a \$30 bbl. price scenario for crude oil in their latest forecast. They prepared three basic scenarios—\$25 bbl. crude, \$30 bbl. crude and \$35 bbl. crude. They say, almost cautiously, that the three scenarios are not projections per se, but ranges of what could be in the wind under certain economic assumptions.

If war comes, there's no telling how high crude prices (and product prices) will go. In the fourth quarter, for example, crude prices ranged from \$30 bbl. to \$40 bbl. in spot markets.

The chart shows the basic \$30 bbl. projection:

As for heating oil this winter, federal economists have this to say:

"Given a range of world oil prices of \$25 to \$30 bbl., retail heating oil prices are expected to range from an average of

18¢ to 46¢ gal. higher this winter compared to last winter. Primary distillate stocks are currently much more plentiful than they were at this time last year (4th quarter), making it somewhat unlikely that average retail price increases would exceed 46¢ unless prolonged, severely cold weather occurred."

The 1991 outlook for gasoline demand is also on the negative side. Say the

several months prior to the Iraqi invasion of Kuwait. From January through July 1990, shipments were down by almost 1.0% from the same period in the previous year because of the slowdown in the economy."

Using the range of oil prices and economic assumptions in this forecast, a decline in petroleum demand in 1991 could range from 400,000 b/d to as much

as 1-million b/d, agree the economists. The economists add the assumption that motorists will take steps to cut back sharply on highway travel and to maximize vehicle efficiency if motor fuel prices go up as much as 40% to 50% in 1991.

The federal soothsayers made no mention of it, but industry experts expect the unleaded premium fuels to take the worst beating if prices continue to rise. Some marketplaces have already registered declines of 10% or more in unleaded premium sales as motorists dropped back to regular and mid grades. Leaded premium has all but vanished from the marketplaces, averaging less than 5% of total consumption.

### PRICES

|                 | 1989    | 1990    | 1991    | % Chng<br>91 vs 90 | % Chng<br>91 vs 89 |
|-----------------|---------|---------|---------|--------------------|--------------------|
| Crude per bbl.  | \$18.08 | \$22.30 | \$30.00 | 35%                | 66%                |
| Gasoline *      | 1.06    | 1.22    | 1.46    | 20                 | 38                 |
| No. 2 Diesel    | .99     | 1.14    | 1.36    | 16                 | 37                 |
| No. 2 Wholesale | .57     | .70     | .89     | 27                 | 56                 |
| No. 2 Retail    | .90     | 1.06    | 1.29    | 22                 | 43                 |
| No. 6 Resid     | .39     | .46     | .62     | 35                 | 59                 |

\* Average for all grades and services and includes taxes.

### SUPPLY

(million b/d)

|            | 1989  | 1990  | 1991  | % Chng<br>91 vs 90 | % Chng<br>91 vs 89 |
|------------|-------|-------|-------|--------------------|--------------------|
| Gasoline   | 7.33  | 7.25  | 7.03  | (3)                | (4)                |
| Distillate | 3.16  | 3.01  | 2.90  | (4)                | (8)                |
| Resid      | 1.37  | 1.24  | 1.00  | (19)               | (27)               |
| Total **   | 17.33 | 16.99 | 16.26 | (4)                | (16)               |
| Imports    | 7.20  | 7.47  | 6.62  | (11)               | (8)                |

\*\* Includes all oils.

federal prognosticators:

"Motor gasoline demand is expected to decline substantially in all three price scenarios, following an expected decline of 1.1% in 1990. Demand (as measured by product supplied) was weak for

more in unleaded premium sales as motorists dropped back to regular and mid grades. Leaded premium has all but vanished from the marketplaces, averaging less than 5% of total consumption.

## U.S. PETROLEUM SUPPLY AND DEMAND—1991 FORECAST

|                                          | 1st<br>Qtr.    | 2nd<br>Qtr.    | 3rd<br>Qtr.    | 4th<br>Qtr.    | 1991<br>Average | 1990-'91<br>% Chg. |
|------------------------------------------|----------------|----------------|----------------|----------------|-----------------|--------------------|
| <b>DEMAND</b>                            |                |                |                |                |                 |                    |
| <b>Domestic Products</b>                 |                |                |                |                |                 |                    |
| Motor Gasoline                           | 6,863          | 7,225          | 7,356          | 7,151          | 7,150           | -1.5%              |
| Aviation Fuels                           | 1,527          | 1,501          | 1,546          | 1,596          | 1,543           | 1.8%               |
| Distillate Fuel                          | 3,321          | 2,918          | 2,830          | 3,352          | 3,105           | 0.2%               |
| Residual Fuel Oil                        | 1,438          | 1,147          | 1,133          | 1,290          | 1,251           | -3.2%              |
| Other Products                           | 3,892          | 3,867          | 4,080          | 3,836          | 3,919           | -0.2%              |
| Total Domestic Demand                    | 17,041         | 16,658         | 16,945         | 17,225         | 16,968          | -0.7%              |
| Total Exports                            | 786            | 760            | 764            | 819            | 782             | -0.4%              |
| <b>TOTAL DEMAND</b>                      | <b>17,827</b>  | <b>17,418</b>  | <b>17,709</b>  | <b>18,044</b>  | <b>17,750</b>   | <b>-0.7%</b>       |
| <b>SUPPLY</b>                            |                |                |                |                |                 |                    |
| <b>Domestic Production</b>               |                |                |                |                |                 |                    |
| Crude Oil                                | 7,252          | 7,158          | 6,998          | 6,770          | 7,043           | -2.5%              |
| Natural Gas Liquids                      | 1,555          | 1,536          | 1,508          | 1,506          | 1,526           | 1.3%               |
| <b>Total Production</b>                  | <b>8,807</b>   | <b>8,694</b>   | <b>8,506</b>   | <b>8,276</b>   | <b>8,569</b>    | <b>-1.9%</b>       |
| <b>Imports</b>                           |                |                |                |                |                 |                    |
| Motor Gasoline                           | 394            | 440            | 412            | 406            | 413             | -5.7%              |
| Aviation Fuels                           | 105            | 115            | 86             | 91             | 99              | -6.6%              |
| Distillate Fuel                          | 350            | 266            | 249            | 339            | 301             | -0.7%              |
| Residual Fuel Oil                        | 620            | 482            | 477            | 546            | 531             | -3.3%              |
| Other Products                           | 836            | 782            | 799            | 757            | 793             | -0.8%              |
| Total Products                           | 2,305          | 2,085          | 2,023          | 2,139          | 2,137           | -2.6%              |
| Crude Oil Imports                        | 6,014          | 6,111          | 6,616          | 6,598          | 6,337           | 2.1%               |
| Total Imports                            | 8,319          | 8,196          | 8,639          | 8,737          | 8,474           | 0.9%               |
| Other Supply                             | 479            | 799            | 899            | 627            | 702             | -17.6%             |
| <b>TOTAL SUPPLY</b>                      | <b>17,605</b>  | <b>17,689</b>  | <b>18,044</b>  | <b>17,640</b>  | <b>17,745</b>   | <b>-1.3%</b>       |
| Refinery Crude Runs                      | 13,273         | 13,678         | 14,286         | 13,665         | 13,728          | -1.1%              |
| <b>CLOSING STOCKS (millions of bbl.)</b> |                |                |                |                |                 |                    |
| Motor Gasoline                           | 230.7          | 216.5          | 220.7          | 222.5          | 222.5           | 3.1%               |
| Aviation Fuels                           | 46.5           | 45.3           | 47.4           | 44.1           | 44.1            | -0.9%              |
| Distillate Fuel                          | 100.9          | 105.9          | 125.2          | 118.6          | 118.6           | -4.0%              |
| Residual Fuel Oil                        | 44.4           | 45.9           | 47.8           | 46.2           | 46.2            | 0.9%               |
| Other Products                           | 257.1          | 288.8          | 298.3          | 268.8          | 268.8           | 1.4%               |
| Total Products                           | 679.6          | 702.0          | 739.4          | 700.2          | 700.2           | 0.8%               |
| Crude Oil                                | 342.2          | 344.5          | 337.9          | 339.9          | 339.9           | -2.0%              |
| <b>TOTAL STOCKS</b>                      | <b>1,021.9</b> | <b>1,046.5</b> | <b>1,077.3</b> | <b>1,040.1</b> | <b>1,040.1</b>  | <b>-0.2%</b>       |
| <b>IMPORTS AS % OF DEMAND</b>            |                |                |                |                |                 |                    |
|                                          | 48.8           | 49.2           | 51.0           | 50.7           | 49.9            |                    |

NOTES: Other Supply includes refinery processing gain, unaccounted crude oil and other hydrocarbons. SPR imports and stocks are excluded. Refinery Crude Runs include crude oil, NGL, unfinished oils and other hydrocarbons.

Source: IPAA Supply and Demand Committee, October 1990.

Don't forget that the first price spikes took place in August and September, when there were excesses of crude and product literally around the world. The Saudis and other OPEC countries quickly compensated for the 4-million bbl./day that Iraq and Kuwait cut off. Thus, as the old year faded into history, there were no supply

problems.

Rising cost factors are going to keep needling gasoline and other product prices upward in 1991 and all through the rest of the '90s. The federal government, for example, bumped its excise take several pennies to help overcome its fiscal budget problems. The new reformulated

gasolines, as Bruce Beyaert told SIGMA members, are going to increase manufacturing and consumer prices "appreciably."

Looking down the road, some industry people already consider \$2 gal. gasoline a very likely scenario by the end of this year and \$3 gal. gasoline an open-end possibility by Dec. 31, 1992. Hardly a single

soul foresees buck-a-gal. (or less) gasoline again. Unless, of course, the crude oil world falls apart again as it did in 1986 when prices plunged to \$8 bbl. Such a financial catastrophe would probably tear the petroleum industry in half, with bankruptcies just about everywhere.

Barring an outbreak of war, however, calmer voices in the industry suggest that basic supply/demand dynamics will eventually settle in again to soften, if not turn around, the pricing splurges of recent months.

Despite the price spikes in the last five months of 1990 and the sharp criticism from consumers that accompanied them, the industry got a pat on the back from the federal government's energy department for its restraint and overall deportment in the last six months of 1990.

Deputy Energy Secretary W. Henson Moore told the API meeting in November that his people could find no evidence of gouging by the American oil companies.

"If anything," he said, "there has been a lack of profits that should have been made and prices that should have been charged for gasoline."

But Moore explained that while the major oil companies restrained the price of gasoline they sold to their own dealers they did not act in the same fashion with their independent distributors, making it tougher for them to compete. Many wholesalers and retailers agree with this statement, of course.

Many retailers complained that their wholesale prices often were higher than the street prices of their branded competitors. This produced a revival of the chant that has been repeated within marketing for a half century or more: "The big boys are trying to drive us out of business and take over our stations."

### Divorcement challenges

A direct result of these complaints and the fact many of them were unchallengeable was a fresh surge of demand for divorcement legislation on federal and state levels. Some states already have divorcement laws on their books but the growing pressure for more in '91 and '92 can't help but make this an increasingly critical issue this year and next.

Adding fuel to the fire was the fact that PMAA was considering, at year-end, proposals that it join the fight by reversing its old position on divorcement and urging Congress to act.

SIGMA, too, might cast its lot with PMAA in seeking legislative remedies to perceived marketplace discrimination. At their meeting in Chicago, SIGMA officials said they would meet with PMAA and the National Assn. of Convenience Stores (NACS) to seek a "consensus" on possible marketer legislative proposals.

However, PMAA's membership is anything but unanimous in its support of divorcement legislation, so this will be a needling factor all through 1991 for the association and the big oil companies. It's even conceivable that an internecine struggle might tear PMAA apart, too.

Suppliers are reacting rather violently to the fact that PMAA is even considering support for divorcement. Criticism and scorn from top executives are everywhere. Some companies are telling their branded outlets and distributors outright to use their weight against divorcement talk within PMAA, implying there might be consequences. One top industry executive, president George Babikian of Arco, canceled plans to address a PMAA luncheon when he learned that PMAA had a divorcement item on its meeting agenda.

### Futures markets

There could and probably will be some first-class ruckuses over the futures markets in New York and Chicago and their alleged role in overheating the price spikes of recent months. Congress already has been asking questions and more hearings unquestionably are in the offing in 1991.

The futures markets, at year-end, were being blamed for much of the volatility in crude and product prices, not the importers and the suppliers. Non-petroleum speculators and brokers were cited frequently as the cause of it all.

Much was made of contentions that rumors, including wild-eyed ones about dreams and nightmares, unjustifiably triggered the market into action. Said Sen. Joseph Lieberman, a Connecticut Democrat and a sharp critic of the futures markets:

"It's startling to think of oil prices being set by young guys on the floor of the exchange screaming at each other based on rumors."

"Prices are subject to manipulation by speculators, people who are not interested in physical oil, people who are just playing with paper to make money."

What he was alluding to there was that almost all of the contracts bought and sold on the futures exchange are settled for cash, not wet barrels.

Non-petroleum speculators can't be blamed for it all, however. At the Senate's first look-see in November, Amerada Hess admitted that it made more than \$200-million in August-September speculation.

Although other major oil companies haven't been that talkative about futures activities, there would be no reason to doubt that they're in the thick of it up to their necks, too.

As a matter of fact, says one industry analyst: "My guess would be that everybody—all up and down the line—

grabbed handfuls as the opportunities occurred."

The futures exchanges aren't going to cave-in on the issues. Responding to reports that in case of war, the government may step in and halt trading because of the explosiveness and volatility of the exchanges, Lou Guttman, the chairman of the New York Mercantile Exchange, gritted his teeth and said: "Hell is going to freeze over before they interfere with our market."

Guttman categorically refuted the charges that the futures exchanges were responsible for the price spikes. "NYMEX didn't create the current crisis," he said at a press briefing in Chicago.

### OPEC oil

War or no war, industry economists assume that once it's over, Iraqi and Kuwaiti oil will come back into the marketplace. Other oil exporters around the world have already made up the 4-million bbl./day that they represented before the confrontation took place last fall.

"It won't happen overnight, of course, but in a reasonable period of time the international marketplaces will be glutted with that 4-million b/d. It's going to require a tremendous adjustment by the Saudis and others to handle it. If they don't, oh boy."

### Looking ahead

On another page in this report there is a 1991 forecast prepared by Independent Petroleum Assn. of America (IPAA). This group has a pretty good track record in projecting statistics. This time 'round IPAA anticipates minor falloffs this year in supply and demand, but no big changes in any direction including consumption. How valid the figures will be depend entirely on what happens in the Middle East.

Perhaps the best way to look at 1991 is to consider the remarks of Exxon economist John Boatright at a panel session devoted to the future:

"I purposely did not prepare a written text for this session. I wanted to be right up to the minute on my numbers...but I didn't want any of them to be in writing so they could come back to haunt me next week or next year."

A well-known East Coast marketer summed it up this way:

"We're living in tenuous times and nobody, but nobody, really has a handle on what's going to happen next week, next month or next year."

"We don't know whether the next TV or newspaper reports are going to deal with bullets and bombs or routine weather reports on sandstorms in Saudi Arabia. Where war or no war is concerned, it's like the bookies say, 'Six to five and take your pick.'"

N.Y.



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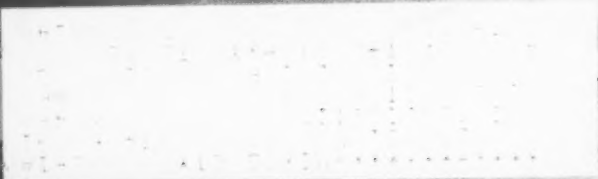
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\$7.00

# Is Used Oil Recycling in Jeopardy? EPA Sets UST Noncompliance Penalties Oil/Auto Fuels Study Reveals First Results

**PN**  
*National Petroleum News*



The Deal  Trade

**NPN**  
**NATIONAL PETROLEUM NEWS**  
Established in 1909

**VOL. 83**

**NO. 2**

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## Editor's Viewpoint

As the editor of *NPN* I realize the significance of being as intelligible as possible. And I know how important it is to you when you're reading the copy in this magazine. Based on a recent event, maybe it's time to convey this philosophy of clarity to the Environmental Protection Agency.

The news item that begins on page 21, entitled "EPA lowers penalty boom for UST noncompliance," is simply mindboggling.

Our reporter, Angel Abcede, did a yeoman's job of trying to interpret the EPA's newly released set of penalty procedures for failure to comply with the federal underground storage tank requirements.

The EPA's penalty "formulas" are yet another indication of how that agency can get tangled up in its own rhetoric. I must admit that my mind was completely numb after reading this exercise in superfluous, meandering, run-on commentary by the federal government. We all appreciate the EPA's efforts and mission, but there must be an easier way, or one that's at least understandable.

According to the report, EPA inspectors will combine the economic benefit and gravity-based components of a cited violation to get an initial penalty figure. However, this figure may be adjusted based on your ability to pay. And, of course, a bunch of other influencing factors.

For all practical purposes, EPA enforcement officials will calculate the degree of the violation and through various formulas determine a penalty amount. These formulas are supposed to take into account a wide variety of factors, including the amount of economic benefit gained from not complying (such as avoided or delayed costs), what harm the surrounding community suffered and how far the marketer has deviated from the rules.

When all is said and done I still don't know exactly what it will cost you if you fail to comply.

I guess what I deciphered from the report is that if an EPA inspector issues a citation it's going to cost you anywhere from \$100 to \$50,000 plus. As you are all painfully aware, the EPA is not adverse to issuing some hefty fines.

Really, EPA, I think you could have simplified this complex yet very important document considerably. Maybe you should add a good country editor to your staff.

Test: Do you know what "baseballs" mean in drug street lingo? How about "corn dogs"? If you don't know the answer to these questions you might want to peruse the informative substance abuse article by Don Smith that begins on page 28. Honestly, I never realized just how naive I really am about drugs and substance abuse or about how pervasive and tragic the deadly trade really is.

—Peggy Smedley

NPN—National Petroleum News (ISSN 0149-5267) is published monthly (except semi-monthly in June) by Hunter Publishing Limited Partnership, 950 Lee Street, Des Plaines, Illinois 60016, (708) 296-0770.

© NPN—National Petroleum News

Second class postage paid at Des Plaines, Illinois and additional mailing offices.

Subscriptions are solicited only from executive, management and supervisory personnel at the supplier and wholesale level of oil marketing, engaged in the distribution, merchandising, transportation and storage of petroleum, TBA products, and convenience store items. Position, company and segment of industry must be indicated on subscription orders.

Basic subscription rates for one year to individuals in the petroleum marketing industry are: U.S. \$60; Canada \$69 (U.S. \$); Foreign surface mail \$75 (U.S. \$); Foreign airmail \$110 (U.S. \$). Non-industry personnel rates for one year are: U.S. \$75; Canada \$84 (U.S. \$); Foreign surface mail \$90 (U.S. \$); Foreign airmail \$134 (U.S. \$); Single copy price: U.S. & Canada \$9.00 (includes first class postage). Foreign \$11.00 (includes airmail postage). Mid-June Factbook: U.S. \$50; Canada \$60; Foreign \$70. The publisher reserves the right to accept or reject any subscription. (R) Title registered in U.S. patent office. Change of address: Notices should be sent promptly; provide old mailing label as well as new address; include ZIP or postal code. Allow 6-8 weeks for change. Send address changes, correspondence regarding subscription service or subscription orders to: Circulation Department, NATIONAL PETROLEUM NEWS, 950 Lee Street, Des Plaines, Illinois 60016. Or call (708) 296-0770, 9 a.m. to 4 p.m.

Postmaster: Send address changes to NPN—NATIONAL PETROLEUM NEWS, 950 Lee Street, Des Plaines, Illinois 60016.

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Do you have a drug abuse problem in your workplace? You might have one—and not be aware of it. Here are some things you should know about illegal drug use.

Page 28



Until recently, waste oil wasn't a problem for marketers. But it is now, and it's one marketers should be informed about.

Page 35



The Persian Gulf crisis has disrupted the oil market at every level. In California, Unocal and Chevron dealers picketed to get relief on prices, margins and rents.

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## ● TRENDS

### Another Bullet to Bite: What Is the SPR?

When it was created a decade ago, the Strategic Petroleum Reserve (SPR) was intended to be a locked-in supply of crude oil that could be tapped in the event of another global emergency and enable the American oil companies and the American people to weather petroleum product crises for a three to six-month period.

No one could really disagree with the concept, that is, buy the crude at the lowest possible price and stash it somewhere in the Southwest, not far removed from the many refineries there that hook up with virtually all of the major supply lines.

Nothing to it, really. Once the underground reservoirs were filled, it was believed, U.S. consumers would be assured of products for three to six-month periods depending upon the nature of the crisis, the rate of drawdowns and/or the availability of replacement supplies from other countries.

About a billion gal. would be right. No hurry. Just keep dumping it in so that within a decade the reservoirs would be full. Just like money in the bank. For crisis use only. The federal government would pay for it and oil companies essentially would be home free.

Technically, the SPR was created to counterbalance the OPEC countries, which had treated American consumers and the world at large to the two great supply crises in the early '70s and early '80s. But that's not the way things are turning out now. As a result there has to be some bullet-biting in the months ahead to decide SPR's exact future. These questions need to be answered: Is it going to be strictly a reserve, for emergency use only? Or is it going to be something else again that can be made responsive to other political/economic games entirely?

For example, in the last quarter of '90, while the current Persian Gulf crisis flowered from panic and price spikes, the greatest pressure was not on the reserves to fulfill their intended role as a source of emergency supply but on an entirely new and unintended role as a mechanism to hamstring the skyrocketing of product prices.

There were no world shortages of crude oil in the fourth quarter; in fact, there was a glut then and there is still one now. But speculators played havoc with prices. The futures market, instead of being a price-discovery mechanism, inadvertently became an overnight price-setting mechanism and a source of great profits for foreign producers, domestic suppliers and even some jobbers and distributors. Witness, for example, the calm statement of Amerada Hess that it made more than \$220-million in the fourth quarter just playing the futures market. No other oil company matched that statement, but unquestionably quite a number of them matched the profits.

There were great pressures from domestic suppliers and petroleum marketers in the fourth quarter to tap the SPR now to curb the gasoline price spikes and cool the marketplaces. Some was released presumably to confirm that the withdrawal mechanism would work properly. But a lot of people must have been wearing rose-colored glasses out there, looking for who knows what kind of a miracle to happen.

Now that prices are abating, the furor has died down for the moment. There are no shortages, no supply problems. Even if the Persian Gulf crisis would evaporate overnight, which is not very likely, the SPR identification problem will not go away. Sooner or later, that bullet must be bitten and the government and the industry will have to decide once and for all whether what they want is an insurance trove of crude oil reserved strictly for emergency use or whether they're amenable to some kind of a watered-down insurance policy that could be triggered by other "emergencies" that would only deplete the reserves but not solve the problems?

—By J. Richard Shaner

## ● MARKETPLACE AT A GLANCE

### AVERAGE GASOLINE PRICES IN THE U.S. (per gal.)

|                                       | Gasoline<br>(All types) | Leaded<br>Regular | Unleaded<br>Regular | Unleaded<br>Premium |
|---------------------------------------|-------------------------|-------------------|---------------------|---------------------|
| NOVEMBER<br>U.S. City Avg.<br>Regions | \$1.432                 | \$1.351           | \$1.377             | \$1.559             |
| Northeast                             | 1.510                   | 1.329             | 1.437               | 1.638               |
| North Central                         | 1.404                   | 1.341             | 1.363               | 1.546               |
| South                                 | 1.409                   | 1.345             | 1.343               | 1.520               |
| West                                  | 1.427                   | 1.355             | 1.394               | 1.557               |

Source: U.S. Dept. of Labor, Bureau of Labor Statistics.

### STOCKS (Add 000 bbl.)

|                      | 12/28/90 | 1/29/89 |
|----------------------|----------|---------|
| Gasoline (Total)     | 223,562  | 216,932 |
| Gasoline (Unleaded)* | 174,115  | 161,761 |
| Jet Kerosine         | 45,303   | 36,290  |
| Distillates          | 130,110  | 108,189 |
| Residual             | 49,519   | 44,016  |

\*Included in gasoline total.

Source: American Petroleum Institute.

# Futures Market Stiffens Rules to Curb Price Spikes

New York Mercantile Exchange (NYMEX), which has been both damned and praised for the futures market it sponsors and controls, has voluntarily implemented some trading restraints designed to dampen the wild price gyrations in crude oil and petroleum products in recent months.

Rather than wait for the approval that must come from the Commodity Futures Trading Corp. (CFTC), NYMEX's board put the new rules into effect in mid-December on an interim basis. CFTC is expected to okay them, but there's always the possibility that it may make them even tougher in the process.

The futures markets, and particularly the investment actions of speculators, have been blamed for precipitating price spirals unjustifiably and often on the basis of marketplace rumors spread at fantastic speeds via the computer screens that are routine equipment in modern offices and brokerage firms.

Petroleum prices, for example, skyrocketed in the wake of the Iraqi invasion of Kuwait on August 2, touching \$40 bbl. for crude and forcing pump prices for gasoline into the \$1.50 gal. area, up maybe 50% in several weeks.

Oil marketing groups working with

NYMEX officials said the changes were "good, but they didn't go quite far enough."

The Exchange is, for the first time, putting price limits on the spot month of the NYMEX energy contracts while at the same time expanding limits on the second month.

Most of the rule changes are technical, so much so that participants are virtually the only ones who understand them. The objective, however, is to strengthen the regulations to ensure efficient operations during times when world events create rapid changes in the price of crude oil and petroleum products.

The regulations include a mandatory "pause period" when pit actions and price changes heat up too much.

Chairman Z.L. Guttman says, "Price discovery and risk shifting are particularly critical in the event of the rapid and potentially large price movements which could be created by a peace settlement [in the Persian Gulf] or an announcement of war. Unnecessary interruption or inhibition of NYMEX could cause dire financial consequences to parties cumulatively hedging billions of dollars on energy price risk."

Guttman's comment on market interruptions related to a Senate hearing

wherein it was suggested that perhaps the futures market would have to be closed down in the event of war. He was quoted as saying that the Exchange "would fight like hell to keep anyone from intruding in our business affairs."

Guttman also made this comment:

"We believe that the limits imposed on the front months are broad enough to permit accurate market pricing. The temporary cessation provides a market pause to grant the opportunity for additional information dissemination, the review of margins and other financial considerations, consultation between government officials and the Exchange Board and staff and for Clearing Members to communicate with their customers."

## EIA Says Price Hikes Justified

The uncertainty of crude oil supply was a major factor in the rise of gasoline prices last summer, according to a report released this past November by the Energy Information Administration (EIA), an independent statistical and analytical agency within the Dept. of Energy.

The EIA says the price of oil in the wake of the Iraqi invasion of Kuwait last August was determined by supply and demand. The report, entitled *Petroleum Prices and Profits in the 90 Days Following the Invasion of Kuwait*, says there was no indication that the market system failed.

Although worldwide stocks of oil were at near-record levels, the uncertainty of the invasion and of replacement supplies fueled high prices, the reports says.

Crude oil prices then remained high due to concerns over the ability to meet peak fourth-quarter demand for petroleum products; the vulnerability of replacement crude to disruption and the exhaustion of world excess production capacity, the report concludes.

The retail price of gasoline did not increase as fast as the price of crude oil, the report says. And by the end of 90 days, increases in pump prices were below, but approaching the price of crude oil, the report adds.

Concerning major oil company profits, the EIA observed "mixed results" for the months of July, August and September. Companies that owned a significant amount of the crude oil saw profits rise, while companies that had to buy crude oil or petroleum products at higher prices were hurt, the report says.

## OPEC Commits Itself to Pre-Crisis Production Quotas to Cool Prices

Although their performance record to date has been far from good, the 13 members of the Organization of Petroleum Exporting Countries (OPEC) have agreed to go back to their pre-crisis crude oil production quotas once the Persian Gulf confrontations are resolved.

The OPEC resolution, signed in Vienna in mid-December, pledges the membership to reinstate the output ceiling of 22.5-million b/d that was in effect when Iraq invaded Kuwait on August 2 and absorbed it into its own holdings.

At the end of December, the OPEC countries collectively were producing more than 23-million b/d, more than making up for the 4-million b/d that went down the tubes when Iraqi troops confiscated Kuwait.

With a glut of crude and products already on hand, there are fears that continued over-production and a softening of the crisis could cause a price drop equaling or exceeding the collapse of 1986.

Crude prices, which skyrocketed to the \$40 bbl. level in the wake of the Iraqi

invasion—about twice as high as they should have been normally—were down about 25% by the end of the year. The 1986 trauma dropped them to less than \$10 bbl.

Here's a brief recap of the OPEC quotas at the end of 1990:

| Country        | Basic Quota | Aug. 1 Prod. (Million b/d) | Dec. 31 Prod. |
|----------------|-------------|----------------------------|---------------|
| Saudi Arabia   | 5.4         | 5.3                        | 8.1           |
| Iran           | 3.1         | 3.0                        | 3.5           |
| Iraq           | 3.1         | 3.1                        | 0.3           |
| Un.Arab Emirs. | 1.5         | 2.2                        | 2.4           |
| Kuwait         | 1.5         | 1.6                        | 0.1           |
| Qatar          | 0.4         | 0.4                        | 0.4           |
| Nigeria        | 1.6         | 1.7                        | 1.7           |
| Libya          | 1.2         | 1.3                        | 1.6           |
| Algeria        | 0.8         | 0.8                        | 0.8           |
| Gabon          | 0.2         | 0.3                        | 0.3           |
| Venezuela      | 1.9         | 2.0                        | 2.5           |
| Ecuador        | 0.3         | 0.3                        | 0.3           |
| Indonesia      | 1.3         | 1.3                        | 1.3           |
| Totals         | 22.5        | 23.2                       | 23.4          |

(Quota and August 1 stats are from International Energy Agency, Paris, and year-end stats are estimates by industry sources. Some OPEC members are already operating at capacity levels and cannot increase their output in 1991.)



# Marketer's Tax Corner

Irving L. Blackman

## Family Businesses Await Next Generation

American business is graying. The guys who fought in World War II came home in droves. It is estimated that over 1-million entrepreneurs started businesses after the war. The successful businesses are now being transferred to the children of those ex-servicemen.

But even more importantly, owners of family businesses are frequently calling my office, consulting, then implementing plans to transfer their businesses to their children. How heartwarming! For years, we heard business owners talk, but do nothing, about putting a transfer plan into effect. Now these businessmen are taking serious action.

One question is central to all transfer plans. What is your business worth exactly? Whether your transfer plan is a sale of the business to the children, a gift, a redemption or some other method or combination of lifetime transfer methods, the same big question still remains—What is it worth?

Since the business itself is almost always the biggest dollar-value asset of a family business owner, its value is critical to both the transfer plan and the estate plan.

However, only about 5% of the owners really know what their business is truly worth (usually the result of an appraisal) that about 50% of the owners greatly overvalue their business and about 45% of the owners use book value (rarely the right method) as the measure of the business' worth.

You wouldn't set the price on an item or service you were about to sell until you determined the cost, would you? The same logic applies to developing a transfer-your-business plan. The fair market value of your business dictates the potential estate tax cost. The message is crystal clear. You must know this cost. If you plan to sell or transfer your business, it is essential to have your business appraised.

Want to discover more about these tax-saving subjects? Send for the companion special reports *How to Value Your Business for Tax Purposes* (\$21) and *Transfer Your Corporation to the Next*

*Generation...Tax Free* (\$25). Both reports are available for \$37. Send your request to Blackman Kallick Bartelstein, 300 S. Riverside Plaza, Chicago, IL 60606.

### What Are Your Chances Of An IRS Audit?

During 1989, a total of 985,000 individual income tax returns were selected and subjected to the anxiety of an Internal Revenue Service (IRS) audit. Adding up all the numbers, this means that 92 income tax returns out of 10,000 filed were examined in 1989, down a notch from the 103 per 10,000 in 1988.

But don't get overconfident that these low percentages don't apply to you. The higher your income, the greater the chance the IRS will pay you a visit. And "Read my lips"—your chance of an audit will increase in the '90s. The Bush Administration has hired more agents for IRS audit duty.

The following chart highlights the chances that your personal income tax return will be audited based on 1989 figures:

| Total Positive Income | Chances in 10,000 of Being Audited |
|-----------------------|------------------------------------|
| Under \$25,000        | 59                                 |
| \$25,000 to \$50,000  | 100                                |
| \$50,000 and over     | 181                                |

Just how big is the massive task the IRS has each year in tracking down tax cheats? The Service received 107-million individual returns in 1989, plus millions more of corporation, partnership and trust returns.

The chances of having your business or company audited by an examining agent increased in 1989 compared with a year earlier, especially for many corporations. However, your chances of entertaining an examining agent in 1989 decreased if you operated a small, unincorporated business.

Here's the breakdown for noncorporate businesses and for corporations:

| Noncorporate Business Income: Schedule C | Chances in 10,000 of Being Audited |      |
|------------------------------------------|------------------------------------|------|
|                                          | 1989                               | 1988 |
| Under \$25,000                           | 131                                | 145  |
| \$25,000 to \$100,000                    | 192                                | 212  |
| \$100,000 and over                       | 379                                | 420  |

| Corporations (in assets) | Chances in 10,000 of Being Audited |       |
|--------------------------|------------------------------------|-------|
|                          | 1989                               | 1988  |
| Under \$250,000          | 117                                | 72    |
| \$250,000 to \$500,000   | 167                                | 81    |
| \$500,000 to \$1-mil.    | 173                                | 111   |
| \$1-mil. to \$10-mil.    | 358                                | 320   |
| \$10-mil. to \$100-mil.  | 1,934                              | 1,876 |
| \$100-mil. and above     | 5,304                              | 5,354 |

Less than 2% of gift tax returns filed in 1989 were audited. Estate tax returns, on the other hand, were looked over closely, as follows:

| Chances in 10,000 of Being Audited |       |       |
|------------------------------------|-------|-------|
| Based on Gross Estate              | 1988  | 1989  |
| Under \$1-mil.                     | 1,793 | 1,709 |
| \$1-mil. to \$5-mil.               | 2,907 | 3,056 |
| \$5-mil. and above                 | 5,130 | 6,700 |

And some advice to each reader who faces an IRS audit: Hire the best tax professional you can find.

*Irving L. Blackman is the senior tax partner at Blackman Kallick Bartelstein, certified public accountants with offices in Chicago (300 South Riverside Plaza, Chicago, IL 60606), Miami and Houston. Blackman, also an attorney, author and seminar leader, and Daniel J. Fensin (his CPA partner specializing in oil jobbers) have established a hotline to answer the tax questions of National Petroleum News readers. Call Fensin at (312) 207-1040.*

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PUBLICATION HAVE BEEN FILMED

Cov. 1, Pgs: 3, 5, 8, 10,

21, 22, 24, 36-40

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March 1991

\$7.00

**Marketer Delivers the Old-Fashioned Way  
POS Moves into Second Generation  
1991 Annual Buyer's Guide**

C4680-1

# **NPN**

*National Petroleum News*



**Are Two Clerks  
Safer Than One?**

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## Editor's Viewpoint

The murder of a young female C-store clerk a month ago in a Southern city should have been yet another rude awakening for proponents of an ordinance requiring two clerks on duty during late night hours. Even though advocates of the two-clerk law say they have the facts and figures to prove that two clerks on late night shifts discourage crime, opponents of the rule scoff at those statistics, pointing out that two clerks are not a proven deterrent to robberies—or worse.

The tragic, all too frequent loss of lives of on-duty clerks should send a strong signal to federal and state regulators for the need to draft security measures such as well-lit stores, clear windows, drop safes, limited cash on hand, etc., with a proven track record in deterring crime. Industry studies clearly show that these security procedures deter robberies more than the two-clerk provision. (See story on pg 30)

While there is no such thing as a failsafe safety measure against robbery or murder, these other security techniques are more appropriate than subjecting two people to a game of chance. Ironically, the young female clerk who was murdered was one of two clerks on duty during the graveyard shift. According to an industry exec, the robber had taken the money and was on the way out the door when he heard the other clerk rustling around in the back and panicked and shot and murdered the woman.

Wayland Clifton, chief of police, Gainesville, Fla., told me that since the ordinance went into effect, overall C-store robberies have sharply declined. He adds night time robberies in C-stores have declined 92%, while in the surrounding county (where the ordinance is not in place) C-store robberies are up 45%. Considering all the emphasis and publicity the police department put on combating C-store robberies, and the fact the ordinance mandated a range of other security procedures, it's little wonder why criminals targeted other establishments. If I were a crook, I'd do the same.

I realize that common sense dictates it's safer to walk late at night with a friend than walk alone, but I don't know if that holds true during a robbery with a drug-crazed addict holding a gun to a C-store clerk's head asking for twenty dollars.

The murder of a C-store clerk is a shattering experience. Undoubtedly store owners should be required to protect their employees, most of whom put their lives at risk for slightly more than minimum wage.

In addition to requiring two-clerks, the Gainesville ordinance mandates scanning, closed circuit television cameras, 500-lb. or timed opening floor safes, a \$50 limit on cash in the register, windows clear of stock and advertising stickers that might obstruct the view of a store's interior and adequate lighting throughout the parking lots, including side lots. These are sensible measures, they work better than two clerks and they should become the nucleus for industry-wide standards and rules for store security.

Jeopardizing the lives of two people is not the answer. Finding hard solutions that work is a much more sensible approach.

—Peggy Smedley

NPN—National Petroleum News (ISSN 0149-5267) is published monthly (except semi-monthly in June) by Hunter Publishing Limited Partnership, 950 Lee Street, Des Plaines, Illinois 60016, (708) 296-0770.

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Second class postage paid at Des Plaines, Illinois and additional mailing offices.

Subscriptions are solicited only from executive, management and supervisory personnel at the supplier and wholesale level of oil marketing, engaged in the distribution, merchandising, transportation and storage of petroleum, TBA products, and convenience store items. Position, company and segment of industry must be indicated on subscription orders.

Basic subscription rates for one year to individuals in the petroleum marketing industry are: U.S. \$60; Canada \$69 (U.S. \$); Foreign surface mail \$75 (U.S. \$); Foreign airmail \$110 (U.S. \$). Non-industry personnel rates for one year are: U.S. \$75; Canada \$84 (U.S. \$); Foreign surface mail \$90 (U.S. \$); Foreign airmail \$134 (U.S. \$). Single copy price: U.S. & Canada \$9.00 (includes first class postage). Foreign \$11.00 (includes airmail postage). Mid-June Factbook: U.S. \$50; Canada \$60; Foreign \$70. The publisher reserves the right to accept or reject any subscription. (R) Title registered in U.S. patent office. Change of address: Notices should be sent promptly; provide old mailing label as well as new address; include ZIP or postal code. Allow 6-8 weeks for change. Send address changes, correspondence regarding subscription service or subscription orders to: Circulation Department, NATIONAL PETROLEUM NEWS, 950 Lee Street, Des Plaines, Illinois 60016. Or call (708) 296-0770, 9 a.m. to 4 p.m.

Postmaster: Send address changes to NPN—NATIONAL PETROLEUM NEWS, 950 Lee Street, Des Plaines, Illinois 60016.

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Are two clerks safer than one? Although the two-clerk ordinance is picking up steam, the issue is still a bone of contention among many marketers.

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Technological advances and customer demand for efficiency have changed the shape of POS. The majors are replacing and upgrading their equipment with state-of-the-art applications to meet this demand.

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Fannon Petroleum Services relies on the old-fashioned, customer-friendly, community-oriented approach, plus a diversified account base to maintain its position as one of the top companies in the Washington, D.C., area.

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## Bonanzas Included \$1-billion for Marathon and Conoco

Fourth-quarter and full-year earnings reports made 1990 financial-page heroes out of virtually all of the majors and the top independent marketers.

There's little or no reason to believe that the sunshine and roses did not permeate the rest of the industry, showering many companies with similar bonanza-like profits.

The crisis in the Persian Gulf, which became a full-fledged war in mid-January, contributed heavily to the runup in earnings, most companies said. Some went to extraordinary lengths to explain their good fortunes, issuing news releases and commentaries, undoubtedly in anticipation of public grumbling over the size of the profit increases.

Nine oil companies, including the two biggest corporately owned independents—Marathon and Conoco—earned well over a billion dollars each in the year just ended. That's up three from the billion-dollar club listing of 1989. Collectively the nine billion-dollar frontrunners made almost \$18-billion in 1990 vis a vis \$13-billion for 1989's sextet.

Top dog Exxon came in with more than \$5-billion for the year. This wasn't too surprising—the company has made that much on several occasions in the past—but the fact that its fourth quarter was up 221% was of an eye-opener.

Marathon enhanced its image as a likely takeover target with its first billion-dollar year in history (NPN—Dec. '90, p32). It made \$1.1-billion, more than Conoco, which once before (1980) earned that much. Marathon is owned by USX Corp., the Pittsburgh, Pa., steelmaker, while Conoco is owned by DuPont Co., based in Wilmington, Del. Marathon earned five times as much as the steel subsidiary of USX, accounting for 73% of the corporation's profits.

### Corporate: Fourth-Quarter and Full-Year Earnings 1990 vs. 1989

(billion dollars)

|                 | 4th Qtr.<br>1990 | 4th Qtr.<br>1989 | %<br>Chng. | Full Year<br>1990           | Full Year<br>1989 | %<br>Chng. |
|-----------------|------------------|------------------|------------|-----------------------------|-------------------|------------|
| Exxon           | \$1,555.0        | \$485.0          | 220.6%     | \$5,010.0                   | \$3,510.0         | 42.7%      |
| Mobil           | 651.0            | 447.0            | 45.6       | 1,928.0                     | 1,809.0           | 6.6        |
| Chevron         | 633.0            | (883.0)          | ----       | 2,157.0                     | 251.0             | 759.4      |
| Amoco           | 538.0            | 319.0            | 68.7       | 1,913.0                     | 1,610.0           | 18.8       |
| Shell           | 446.0            | 264.0            | 68.9       | 1,036.0                     | 1,405.0           | (26.3)     |
| Texaco          | 338.0            | 287.0            | 35.0       | 1,450.0                     | 2,413.0           | (39.9)     |
| Arco            | 566.0            | 403.0            | 40.0       | 2,011.1                     | 1,953.0           | 3.0        |
| BP America      | n/a              | n/a              | n/a        | n/a                         | n/a               | n/a        |
| Phillips        | 237.0            | (255.0)          | ----       | 779.0                       | 219.0             | 255.7      |
| Conoco          | 405.0            | 108.0            | 275.0      | 1,078.0                     | 538.0             | 100.4      |
| Unocal          | 38.0             | (26.0)           | ----       | 401.0                       | 260.0             | 54.2       |
| Marathon *      | 338.0            | 166.0            | 103.6      | 1,138.0                     | 987.0             | 15.3       |
| Coastal         | 94.9             | 71.4             | 32.9       | 225.6                       | 170.1             | 32.6       |
| Sun             | 18.0             | (173.0)          | ----       | 229.0                       | 98.0              | 133.7      |
| Amerada Hess    | 235.2            | 70.8             | 232.2      | 482.7                       | 476.3             | 1.3        |
| Pennzoil        | 29.9             | (102.5)          | ----       | 93.8                        | 103.5             | (9.4)      |
| Ashland         | (10.8)           | 22.0             | ----       | [1st Qtr. fiscal ends 9/30] |                   |            |
| Kerr-McGee      | 49.9             | 37.2             | 34.1       | 150.2                       | 156.0             | (3.7)      |
| Murphy          | 18.9             | 20.9             | (9.6)      | 113.9                       | 46.6              | 144.4      |
| Amer. Petrofina | 19.6             | 13.5             | 45.2       | 125.5                       | 119.1             | 5.4        |
| Citgo           | n/a              | n/a              | n/a        | n/a                         | n/a               | n/a        |
| Dia. Shamrock   | 7.7              | (23.8)           | ----       | 77.5                        | 28.1              | 175.8      |
| Total Petro.    | 0.3              | 9.6              | (96.9)     | 42.0                        | 48.2              | (12.9)     |

### Downstream: Fourth Quarter and Full Year—1990 vs. 1989

(million dollars)

|                   |       |       |      |       |         |      |
|-------------------|-------|-------|------|-------|---------|------|
| Exxon Total       | \$306 | \$340 | (1)  | \$221 | \$1,098 | (80) |
| Domestic          | (24)  | 114   | ---- | 98    | 370     | (74) |
| Foreign           | 330   | 226   | 46   | 123   | 728     | (83) |
| Mobil Total       | 254   | 101   | 151  | 619   | 655     | (6)  |
| Domestic          | 21    | 66    | (68) | 96    | 319     | (70) |
| Foreign           | 233   | 35    | 566  | 523   | 336     | 56   |
| Chevron Total     | 150   | (271) | ---- | 763   | 134     | 469  |
| Domestic          | ---   | (322) | ---- | 376   | (82)    | ---  |
| Foreign           | 150   | 51    | 194  | 387   | 216     | 79   |
| Texaco Total      | (15)  | (45)  | ---- | 618   | 460     | 34   |
| Domestic          | (65)  | (112) | ---- | 244   | 78      | 213  |
| Foreign           | 50    | 67    | (25) | 374   | 382     | (2)  |
| Amoco (worldwide) | 83    | 187   | (56) | 315   | 648     | (51) |
| Shell             | 23    | 10    | 130  | 88    | 361     | (76) |
| BP America        | n/a   | n/a   | n/a  | n/a   | n/a     | n/a  |
| Arco              | 54    | 64    | (16) | 439   | 291     | 51   |
| Phillips          | 15    | (15)  | ---- | 145   | 176     | (18) |
| Conoco            | 162   | 62    | 61   | 562   | 303     | 85   |
| Sun               | (15)  | 7     | ---- | 155   | 212     | (27) |
| Marathon          | 69    | 58    | 19   | 551   | 405     | 36   |

\* Operating income; Marathon's 1989 earnings were restated in 1990, increasing them from the originally announced \$862-million to \$987-million.



## ● TRENDS

### Guessing Game: How High (or Low) Will Prices Go?

About a month before the first bombs fell on Iraq in mid-January, a group of financial writers, business editors and assorted oil experts, all of whom should have known better, spent 10 to 15 minutes after a jolly luncheon consulting their crystal balls and predicting where crude oil and gasoline prices would be at the "same time next year," i.e., winter 1991-92.

Obviously, no one's going to know the correct answers until next December, when the questionnaires will be reviewed and graded for accuracy. But the implications of their guessing game make for some interesting reading for the oil industry, especially gasoline and fuel oil marketers, in the meantime.

There are two or three things to keep in mind in reading this commentary: (1) The forecasts were made in a prewar atmosphere when no one was really sure whether or not the January 15, U.N. deadline was going to be a date with destiny; (2) the participants are considered sophisticated marketplace and/or oil industry evaluators; therefore, more realistic than the man-on-the-street in their outlooks; and (3) more important than the actual numbers is the range of their guess-estimates, i.e., the highs and lows in each case, war or no war.

The first question of importance to oil people: If the price of Saudi Arabian light crude was \$20.80 bbl. on Oct. 29, 1990, what will it be on Oct. 28, 1991? The forecasts: \$16.00 to \$41.50 bbl. In other words, none of the business, financial and oil savants thought that international crude prices would be near the \$8.00 bbl. bottoms of 1986, nor would they be in the \$50 to \$100 range that makes the forecast headlines from time to time.

Another question looked at crude prices from the domestic angle. Suppose, said the questionnaire, the

domestic "spot" price for West Texas intermediate crude was \$34.70 bbl. on Oct. 29, last. What will it be on Oct. 28, 1991? The experts: \$15.00 to \$44.00 bbl. That's a bit higher than the international forecast and a bit below the downside expectancy.

Similarly, if the wholesale price for unleaded, regular grade gasoline was 96.75¢ gal. in New York, what will the price be one year from then? The range: 56¢ to \$1.55 gal. Remember, these are supposed to be high/low forecasts—the extremes in the forecasts. Thus, 55¢ gal. wholesale would equate out to around 85¢ at the pump, which isn't really that scary, while \$1.55 gal. wholesale would see hose retails around \$2.00 gal., which undoubtedly would produce a lot of consumer restiveness.

Question: If the nine-month average for drilling rigs in 1990 was 971, what's the outlook for the like period of 1991? The response range: 770-1,300. That, for an industry which has seen as many as 4,000 rigs adripping in the early '80s, isn't great or optimistic news. What it is saying, in effect, is that oil imports will continue to increase in 1991 while U.S. production will continue to decline.

Looking at the financial markets, the galaxy of editors, writers and pundits said the prime interest rate would be somewhere between 7-11.5% on Oct. 28, 1991, while the interest rate of 13-week Treasury bills sold at auction would be 5-9%.

Sponsor of the luncheon—and the annual Economic Questionnaire—for the record was USX Corp., which owns and operates Marathon Oil Co. and U.S. Steel Corp.

The group suggested that USX would make out reasonably well in 1991. Noting that the closing price for USX common was 30-7/8 on Oct. 29, 1990, the clairvoyants suggested it might drop as low as 25-7/8 by Oct. 28, 1991, but on the other hand, it could jump as high as 45-1/8. That could be a healthy increase for the corporation, but should also signal that all's very, very well with Marathon, its principal moneymaker.

—By J. Richard Shaner

## ● MARKETPLACE AT A GLANCE

### AVERAGE GASOLINE PRICES IN THE U.S. (per gal.)

|                | Gasoline<br>(All types) | Leaded<br>Regular | Unleaded<br>Regular | Unleaded<br>Premium |
|----------------|-------------------------|-------------------|---------------------|---------------------|
| DECEMBER       |                         |                   |                     |                     |
| U.S. City Avg. | \$1.410                 | \$1.335           | \$1.354             | \$1.537             |
| Regions        |                         |                   |                     |                     |
| Northeast      | 1.505                   | 1.569             | 1.431               | 1.628               |
| North Central  | 1.349                   | 1.295             | 1.311               | 1.485               |
| South          | 1.392                   | 1.294             | 1.327               | 1.504               |
| West           | 1.421                   | 1.352             | 1.387               | 1.552               |

Source: U.S. Dept. of Labor, Bureau of Labor Statistics.

### STOCKS (Add 000 bbl.)

|                      | 1/25/91  | 1/26/90 |
|----------------------|----------|---------|
| Gasoline (Total)     | 220,949  | 226,764 |
| Gasoline (Unleaded)* | 172,665  | 171,002 |
| Jet Kerosine         | 45,135   | 36,742  |
| Distillates          | 115,3723 | 119,007 |
| Residual             | 49,679   | 47,795  |

\*Included in gasoline total.

Source: American Petroleum Institute.

## Traditional Chains Struggle Financially

Is the bell beginning to toll for the traditional convenience store companies? During the past two years, no fewer than 14 C-store chains have fled for the protection of U.S. bankruptcy courts by filing either Chapter 11 bankruptcy protection or Chapter 7 liquidation petitions.

Many more C-store chains, while not in the grip of bankruptcy, have submitted less than stellar financial performances. Those chains have been forced to sell off a number of their stores or to abandon markets where they can't compete.

The plight of today's traditional C-store companies seems to reflect a growing trend that has riddled U.S. companies in general. In 1990, more than 60,000 businesses filed for bankruptcy protection or liquidated, a 21% increase from 1989, according to Dun & Bradstreet. The combined debt of failed companies last year soared to an estimated \$65-billion, an increase of 80%.

What's the root cause of such fiscal chaos? In the C-store industry it has long been identified as intense competition from major oil companies, larger independents and aggressive marketers. Big Oil and its smaller counterparts own most of the prime locations—the corner sites in high traffic zones—and they've been busy converting those traditional stations into C-store/pumper combinations.

Besides having a lock on the prime locations, the majors and large independents are willing to spend big bucks on these locations. With their immense upstream resources and retail holdings already capitalized, the majors are much more flexible financially than the traditional C-store outfits and are more experienced in adapting to the changing marketplace.

However, in some cases, the financial

woes of the traditional C-store chains are largely unrelated to the influx of petroleum companies into the market.

Analysts say the largest chains (200 stores or more) resemble giant pachyderms: Too large and immobile to adapt to changes in the market.

Says Coney Elliott, vice president, Solutions, Inc., San Angelo, Texas: "The larger chains have allowed themselves to get into a cash crunch position so that they can't reinvest dollars back into their operations to compete in the marketplace. Thus, their property depreciates quicker and financial problems ensue."

Dick Meyer, president of C-store Systems, Bedford, Texas, offers numerous reasons for the collapse. "Companies operate without the facts after—rather than before—the trouble begins," says Meyer, who offers financial and strategic planning services to C-store and petroleum companies.

Meyer adds that the cost-cutting required during a reorganization period should be implemented long before the financial problems begin. To illustrate that cutbacks don't necessarily compromise output, Meyer says he has often seen companies "produce more with half the number of employees."

Despite the gloomy assessments, there were signs that the traditional chains might be bouncing back. Of the 14 chains in bankruptcy, two emerged late last year from Chapter 11 with ambitious reorganization plans. They include Plaid Pantry, a 107-store chain headquartered in Portland, Ore., and Convenient Food Mart, Inc., (CFMI), a 550-store chain based in Chicago. Others, such as Circle K and Southland, are still ironing out their reorganization plans.

The list of chains in trouble reads like a

veritable who's who directory of the C-store industry:

- The Southland Corp. (6,705 stores) filed for Chapter 11 in October 1990, after failing to restructure debt obligations incurred during its \$4.9-million leveraged buyout in 1987. A bankruptcy judge ordered the chain to give shareholders one more chance to vote on a reorganization plan. Recently, bond and stockholders have been asked to vote directly on the plan, says a spokeswoman for Southland. Prior to its LBO in 1987, Southland owned 8,250 stores. The number dropped to 6,920 in 1990.

- Phoenix-based Circle K (4,600 stores) filed for Chapter 11 bankruptcy protection in May 1990, after accumulating a junk bond albatross of \$1-billion, much of it frittered away on expensive and rapid store acquisitions. Beginning with about 1,000 stores in 1983, the company increased its retail network to 4,600 by 1990. Company officials say reorganization won't occur until the C-store giant gets a full year under its belt to see what kind of cash flow it can generate.

- Plaid Pantry emerged from bankruptcy in December 1990, after filing for Chapter 11 in March 1989. Chris Girard, president and CEO of the company, says a restructuring plan calls for three to five new stores a year by 1995. The company-owned and operated chain, which reported 172-stores two years ago, has been reduced to 107 stores. Girard says the firm's success hinges on putting gasoline in more new outlets. Currently, only 18 Plaid Pantry stores sell gasoline in the state of Oregon.

- Convenient Food Mart filed for bankruptcy protection in late 1989 and began reorganization in the fall of 1990. CFMI officials comment that gasoline and

deli are the operative words for the C-store chain. The company plans to unveil a new look sometime this year highlighting its fuel and deli operations, says Richard Harper, president and CEO of the firm. CFMI had 1,450 stores at its height, but has since reduced that number to 550.

- Farm Stores, a 260-store chain based in Miami, filed for bankruptcy protection in late 1990. Reorganization

(Continued on page 22)

### Major oil company C-store developments

| Company Name     | Location          | Store Name                       | 1988 Total | 1990 Total |
|------------------|-------------------|----------------------------------|------------|------------|
| Chevron          | San Francisco     | Food Marts                       | 3,896      | 3,800      |
| Unocal           | Los Angeles       | Self Serve Marts                 | 2,500      | 1,924      |
| Shell            | Houston           | Shell Food Mart                  | 1,164      | 4,375*     |
| Amoco            | Chicago           | Food Mart                        | 1,000      | 1,500      |
| Texaco           | Houston           | Food Mart                        | 900        | 1,319      |
| Arco             | Los Angeles       | am/pm mini-marts                 | 782        | 746        |
| Emro Marketing   | Springfield, Ohio | Speedway/Checker/Starvin' Marvin | 675        | 1,668      |
| BP America       | Cleveland         | Sohio/BP/Gulf Mart               | 620        | 803        |
| Ashland          | Ashland, Ky.      | SuperAmerica                     | 500        | 750        |
| Diamond Shamrock | San Antonio       | Corner Store                     | 529        | 677        |

\* Includes all jobber, direct-supplied food marts and C-stores.

(Continued from page 21)

plans are sketchy at the moment. The bankruptcy was precipitated by a real estate deal that had gone sour, sources say.

● Junior Food Mart, Fordyce, Ark., an 80-store chain, filed for Chapter 11 bankruptcy protection in December 1990. Details for a reorganization plan have yet to be announced.

● Cumberland Farms, the 14-state, 1,100-store chain based in Canton, Mass., has been under heavy debt since acquiring Gulf Oil in 1989. A plan to cut the company's gasoline marketing division may occur, sources say. The company's upgrading of its Newfoundland refinery has also become a financial burden, sources say.

### Traditional C-store chains since 1989 that filed for either Chapter 11 bankruptcy protection or Chapter 7 liquidation:

| Company Name               | Location          | Store Name           | # Stores |
|----------------------------|-------------------|----------------------|----------|
| Southland Corp.            | Houston           | 7-Eleven             | 7,700    |
| Circle K                   | Phoenix           | Circle K             | 6,650    |
| Krauszer's Food Stores     | Edison, N.J.      | Dairy Stores         | 136      |
| Majik Market Corp.         | Casselberry, Fla. | Majik Market         | 367      |
| Plaid Pantry               | Portland, Ore.    | Plaid Pantry         | 107      |
| Convenient Food Mart, Inc. | Chicago           | Convenient Food Mart | 550      |
| Kwik Stop                  | Bonville, N.Y.    | Kwik Stop            | 60       |
| Sami Quik Stop             | Youngstown, Ohio  | Sami Quik Stop       | 15       |
| Crouch C-stores            | Shawn, Kan.       | Crouch's             | 4        |
| Tyler & Simpson            | Norman, Okla.     | N/A                  | N/A      |
| Q n'E                      | Austell, Ga.      | Quick N' Easy        | 15       |
| Micky's C-stores           | Killeen, Texas    | Micky's C-stores     | 20       |
| Wickland Oil               | Sacramento, Ca.   | Regal Stations       | 2        |
| JFM, Inc.                  | Fordyce, Ark.     | Jr. Food Mart        | 80       |
| Farm Stores, Inc.          | Miami, Fla.       | Farm Stores          | 260      |

### Why the problem?

Elliott of Solutions, Inc., says larger chains have a few things going against them. He says they haven't built enough gasoline/C-store combination facilities, and that has resulted in one-sided merchandising ratios. On top of that, he says, large chains got into a bad habit of building more stores than they could possibly operate efficiently.

"Some chains are more concerned with opening more and larger stores than fine-tuning the merchandise or just reinvesting in their existing stores," says Elliott. "With so many stores to tend to, the large chains have discovered the capital outlay of such an investment to be devastating."

There are any number of reasons why C-store chains have stumbled financially. In his last analysis of the industry published in 1988, John Roscoe, publisher of the *Dollars Per Day Survey* cited debt, location, leadership and concept as core problems with Southland and its 7-Eleven stores. The 7-Eleven chain was the lowest-rated chain with pretax profits of \$64.45 store per day. Part of the problem, Roscoe points out, is that big chains such as 7-Eleven are saddled with too many low-producing secondary locations.

Roscoe says Circle K, which compounded its problems by imposing price increases at stores despite intense competition, turned from a "cost-based operation to a promoter-driven operation" and that spelled the beginning of the end.

Meanwhile, Girard says Plaid Pantry's downfall stemmed from poor management, heavy debt service and an ill-advised conversion of some outlets to mini-marts. Because of pending litigation against Arco over that conversion, Girard declined to comment on some of the specifics of the conversion. But he added: "The customers ignored our new food program in droves, and we had no gasoline sales to draw in customers." Girard says

new outlets with gasoline must do at least 60,000 gal./mo. to survive.

On the other hand, operators with 200 or fewer stores have flourished. They are now four times more profitable than operators with 200 or more stores, according to NACS's 1991 "State of the Convenience Store Industry" report that's due out this spring.

Two intermediate-size chains that Elliott says bear watching in the '90s include Huck's Convenience Stores, Carmi, Ill., and Town & Country Food Stores, San Angelo, Texas. Both chains have done a good job narrowing the gap on their gasoline-to-merchandise ratios.

Meanwhile, a few of the larger chains also appear to be pushing the right buttons, including:

● National Convenience Stores (NCS), which has 1,084 stores in four Sun Belt states. NCS improved its figures in the first three quarters of its 1990 fiscal year. Third-quarter profits were \$383,000, compared to nearly a \$7.5-million loss in 1989. Company president V.H. Van Horne attributes the turnaround to an increased emphasis on major markets and new merchandising strategy [*NPN*—Feb. '91, p15]. In addition, NCS is one of the few major traditional C-store chains that restructured its retail network along the same lines as the major oil companies, abandoning low-performing markets and concentrating its strategy in markets where it already has a strong presence.

● Casey's General Stores, Inc., a 771-store chain based in Ankeny, Iowa, reported record sales for the first quarter of its 1991 fiscal year ending July 31. Sales advanced 5.8% to a record \$141.5-million, compared to \$133.7-million for the first-quarter 1989. Casey's earned an industry high of \$77.94 store per day in pretax profit. The chain has found success by keeping costs down and picking markets where it is the only show in town.

● Uni-Marts, Inc., a 341-store chain headquartered in State College, Pa., enjoyed a 21% increase in sales for first-quarter 1991. The company saw sales jump to \$70-million from \$57.4-million in first-quarter 1990. Earnings increased 13%.

According to Kirk Gallaher, senior vice president of finance for Uni-Marts, Inc., the company went through a growth spurt in 1988 and 1989, but is now concentrating on fine-tuning its existing outlets. The company has been successful, Gallaher says, because "We're a regional chain and we have a good mix of urban and rural outlets. Where we market, the C-store saturation level is lower. Best of all, we're not bucking heads with the majors."

### Marginal gains

The trials and tribulations of the traditional chains was documented in annual figures compiled by NACS. According to NACS's, convenience stores experienced marginal revenue increases overall from the previous year. The total number of members has increased from 1,353 to 1,427 and total number of stores has risen from 57,603 to 62,665 from the previous year.

According to NACS, chains with 201-500 stores have experienced the most financial duress. These chains declined from 10,304 stores to 8,702 in one year, a 16% drop.

The 1990 NACS report also indicates that pretax profits have been slipping at an uneasy rate. Overall average profits dropped to 0.4% from 1.9% the year before. Again, the report bears out that large C-store companies are ailing the most. Chains with 201-500 stores saw profits decline from 2.7% in 1988 to a loss of 0.4% in 1989. In addition, C-store firms with 500-or-more stores dropped from an average profit of 1.8% in '88 to a loss of 1.1% in '89.

—Steve Dwyer



# Arco Says Its New Gasolines May Be as Clean as Methanol

Atlantic Richfield announced it has developed four reformulated gasolines that may be able to match air-quality benefits of M85 (85% methanol, 15% gasoline), a cleaner-burning alternative motor fuel adopted by many environmental agencies as a standard for comparison.

An independent laboratory will test the new formulas by the end of May to "determine the least costly formulations" that can achieve M85 cleanliness. The test fleet consists of 10 1990 model cars and is similar in makeup to the fleet tested in the Auto/Oil Research Program [NPN—Feb. '91, p23].

"This test phase represents our commitment to expand EC fuels to all our grades of gasoline," says George H. Babikian, president of Arco Products Co. "Making the fuel available in large quantities, however, will require about \$3-billion in refinery modifications over the next four to five years."

An Arco announcement said these tests should be the "final proof" of the company's preliminary conclusions that it can make an M85-equivalent gasoline costing about 15¢ gal. more than conventional gasoline, compared with its estimate of 25-40¢ gal. more for an equivalent amount of M85 (see table).

Arco said its new formulations should test "significantly better" than any gasoline tested in the auto/oil effort because the concentrations of polluting components are equal to or less than those of any gasoline tested in that program.

Arco says each of the four test fuels has significant reductions of aromatics, olefins, sulfur and Reid vapor pressure (volatility), and contains 15% (by volume) of MTBE (methyl tertiary butyl ether).

Arco introduced its first reformulated, cleaner-burning gasoline, EC-1 Regular, in September 1989, and a 92-octane EC Premium in September 1990, both in southern California only.

At a press conference in Los Angeles in January, Arco also announced reaching a milestone of 100-million pounds of pollutants removed from the air through use of its EC gasolines. Arco unveiled a 10-ft.-high digital sign atop its downtown headquarters building that will count down the

foreseeable future."

Natural gas would not enhance national security or be cheaper, Arco officials explained. Some 75% of the world's reserves of natural gas are located in the Organization of Petroleum Exporting Countries (OPEC) and Eastern Bloc nations. "If a large-scale U.S. market were to develop for natural gas-based alternative fuels, cheap foreign gas would rise in price," Arco explained. "It seems to us that OPEC would manipulate the world markets in

## Cost, Cleanliness of Alternative Fuels

|                       | Added ¢ Gal.<br>vs. Gasoline (1) | % Reduction in Pollutants (2)             |                    |                    |
|-----------------------|----------------------------------|-------------------------------------------|--------------------|--------------------|
|                       |                                  | Ozone from<br>Nonmethane<br>Organic Gases | Carbon<br>Monoxide | Nitrogen<br>Oxides |
| Reformulated Gasoline | 15¢                              | 30%                                       | 30%                | nil                |
| LPG                   | 0                                | 30                                        | 25-80              | (3)                |
| CNG                   | 6-23                             | 65                                        | 50-95              | Up to 100%         |
| Methanol (M85)        | 25-40                            | 30                                        | 0-30               | 15-0               |
| Electricity           | 200                              | 99                                        | 99                 | 91                 |

Source: Arco Products Co.

(1) Energy equivalent compared with conventional gasoline.

(2) For 1989-model vehicles.

(3) Between CNG and gasoline.

next 100-million pounds eliminated by EC gasolines.

In an analysis of economic and national security aspects of alternative fuels, Arco concluded, "For the bulk of the nation's light-duty vehicles, we believe that reformulated gasoline is the only practical alternative to conventional gasoline for the

both oil and gas to maximize its own total revenues."

Arco says, "By manufacturing gasoline domestically, the nation is not as dependent on raw-material imports and finished-product imports as it would be with large-scale use of alternative fuels from natural gas."

(Continued from page 23)

Secretary of Energy should take. Executives involved in this level might not be able to respond fully because of antitrust and other laws, NPC said.

• Level 3, for severe national security emergencies such as military mobilization, war, or similar hostilities. A petroleum "National Defense Executive Reserve" (NDER), designated and trained in advance, would be called to active duty. These reserves would assist the DOE in the management of emergency programs adopted by DOE, and direct, where necessary, activities of the oil industry to ensure that supplies meet the nation's essential military and civilian requirements. NPC explained that an NDER organization

should consist of fewer than 50 positions, and should rely on the petroleum industry to operate under competitive free-market conditions.

NDER is an existing government-wide program, but no NDER exists for petroleum production, distribution, refining and marketing. The main reason is that the creation and function of such a unit under existing antitrust and conflict-of-interest laws is severely restricted, NPC said.

For example, petroleum reservists must disassociate themselves from their companies during activation, divest themselves of all energy-related financial holdings and restrict the functions that they can perform upon their return to the

private sector.

Level 3 should be used only in extreme circumstances, such as if the Persian Gulf war cuts oil exports 50%, NPC said, and then only if laws were changed to make serving in the NDER less onerous. Under NPC scenarios, Level 3 would have been used in World War II and the Korean War (see box on page 23).

Serious potential events that NPC believes should not (repeat not) entail activation of a petroleum NDER are if a foreign terrorist nation detonates a nuclear weapon in the United States and threatens more; or an 8.7 earthquake occurs damaging all energy facilities in an area bounded by Kansas City, Chicago, Pittsburgh, Atlanta and Vicksburg.



# POS Moves into Next Generation

Replacement and equipment upgrades mark the latest developments in oil company point-of-sale (POS). Customer demand for faster and more efficient electronic payment systems has thrust the majors into a second generation of POS station hardware.

Since the POS revolution began in the early to mid-'80s, major oil companies, independents and larger jobberships have developed a solid track record with their electronic hardware. As a result, they have long since dispelled "future shock" fears and are exploring and implementing even more advanced POS applications.

Advances in electronic processing, along with the majors' growing desire to increase overall automation of their stations, are slowly altering the shape of POS, pushing the frontiers of applications beyond credit card authorization and debit processing. Space-age developments such as satellite transmissions are very much a part of this reshaping process.

Most if not all of the major oil companies report continual upgrades on equipment, with at least three—Citgo, Mobil and Shell—having replaced their old POS devices with new ones.

During the past two years, petroleum marketers have also been making the transition with newer and more sophisticated POS systems. Other marketers, however, are still researching their POS alternatives. These marketers are examining their suppliers' programs, weighing cost factors and potential benefits. For some marketers, the decision may be whether to brand currently unbranded outlets in order to get onto a POS program.

The new systems the majors have been installing generally have expanded memory and increased capability. The computers in the new generation stretch beyond what oil companies initially intended; namely, to process credit transactions and capture data electronically.

Referring to the need for more memory within its onsite POS terminals, one Citgo spokesman says, "There's only so many things you can put in a closet before you have to build a bigger closet."

Meanwhile, news on other POS fronts appears to be following a path already foreseen by some industry observers.

● Along with the second generation of equipment comes changes in credit card policies, as one-tier pricing spreads across the industry and more majors scuttle discount-for-cash programs.

● While more majors are getting into debit, this option continues its holding pattern in the minds of many major oil companies.

● Development to hasten electronic transactions through radio and satellite waves appears to be progressing steadily, according to industry observers.

## POS evolution

Not only is POS technology changing, but so are the definitions.

Past issues of *NPN* have sought to focus the definition of POS on the functions of credit and debit card authorization. But terminal manufacturers and oil company officials now talk of POS more in terms of the entire station management system, of which credit/debit functions are merely a component.

Other terms, such as "leased line" and "dial up," which describe the phone line methods by which information from the station is transmitted, may have to be modified as radio waves and satellite beams prove cheaper and become more the norm.

Still, despite the expanding terminology, oil companies appear to be settling on POS equipment that will carry them through the early '90s, and in some cases, beyond.

## Expanded memory

The key factor in much of the new POS equipment being installed by the majors is increased memory.

An official with Citgo, for example, says the company had "maxed out" the memory of its existing VeriFone Zon terminals and moved to VeriFone's Zon II XP model, which has just about double the "RAM" or computer memory.

"There were many [additional features] we intended to put into the terminal," says Tom Oare, manager of POS for Citgo. Oare says the latest plan was to add check



The new systems the majors have been installing have expanded memory and increased capability.

authorization to the company's POS capabilities.

"But even check authorization required more memory. We maxed out the terminal. It just did not have sufficient memory," Oare says.

Citgo, which started its POS program back in 1986, has roughly 7,900 branded outlets on POS. Only 15 of those locations are salary operated, with the rest being jobber locations.

The company handles its electronic transactions through JC Penney's Business Services Inc. and Bypass The System.

Citgo, like many other oil companies, has been very active in POS for quite some time. And the equipment it has been using has paid for itself many times over, company officials says, making the time ripe for upgrading its hardware.

Among the many POS options that oil companies are seriously considering are the inclusion of electronic mail, new communication methods, fleet fueling, debit and the ability to be reprogrammed, sources say. And terminals made between 1983-'86 were simply not designed for these functions.

## POS in the pump

Another factor involved in shaping the look of POS terminals is customer convenience. The majors have found much



By Angel Abcede  
Staff Reporter

success with the POS terminal situated right in the pump. The device allows customers to use their credit cards without having to go into the convenience store to pay. An oil company spokesman says the option is especially good for parents who would ordinarily have to leave their children unattended in the car while they went in to pay for gasoline.

The equipment is costly—in the range of \$6,000-\$7,500 per pump—but oil companies figure the tradeoff in terms of increased credit sales and customer convenience is worth it.

Typically the in-pump terminals have visual display screens that direct a customer through the transaction. The terminals operate much like automatic teller machines (ATMs) at banks, with a similar configuration of key pad, screen and card swipe.

Gilbarco's Card Reader In Dispenser (CRIND) is one such model. The device operates just like any other POS terminal and can be retrofitted into other Gilbarco pumps. CRIND's price lists between \$6,000-\$6,500 per terminal, with retrofits running a bit more at between \$6,500-\$7,500 depending on age. Ken Marion, product line manager for Gilbarco, says the price has remained the same for the past two years.

Major companies have responded well to the devices, Marion says. In total, Gilbarco has over 1,000 CRINDs up and running today with a majority of them at major oil outlets. "We're seeing anywhere between 50-90% new pump orders with CRINDs," Marion reports. "The concept really has arrived. The majors have fine-tuned customer interfaces and they see the

advantages of faster throughput and increased convenience [for customers]."

Most of the technology along this avenue comes from the pump manufacturers. Since the pump technology belongs to companies such as Gilbarco and Dresser Wayne, many third-party POS manufacturers find themselves locked out.

"We know the protocol [within our pumps]" says Tom Collins, marketing manager for Wayne Division, Dresser Industries. "A third party would find it difficult to engineer [a POS terminal in the pump] without our input."

Third-party involvement in the technology could only come about with an agreement between a pump manufacturer such as Wayne and a POS terminal maker. Collins reports no such overtures from third-party companies are aimed at Wayne.

Diebold, a company known for its ATMs, has been in the petroleum POS market since 1984. And while Diebold admits they are not pump makers and don't have access to in-pump POS technology, they "don't see it as a problem."

LuAnn Ucker, product manager for Diebold, says, "We see the latest trend to POS terminals in the pump opening up a market for us. There's a lot of cost consciousness out there...[many marketers] can't afford to redo their pumps or don't want to spend the money. We don't see that segment of the market going away."

Ucker says that depending on the features, Diebold terminals, which can control up to 24 fueling sites, can range between \$5,000-\$7,000.



The majors' attempts to solicit more marketers to invest in POS equipment is fueling the development of inexpensive, low-end devices.

The system and controller needed to give the marketer a complete package would cost an additional \$10,000. Prices appear to fall in line with in-pump terminals, but when considering how a single Diebold terminal can operate an entire site, costs can be cut.

Diebold has roughly 800 units operating in the United States and another 400-450 in Canada, Ucker says.

"We've seen a monumental explosion in island automation," Ucker says. "Everyone wants to get on the bandwagon."

Still, despite all the official optimism, sources within the company do admit that advances in petroleum POS are not an emphasis with Diebold. Without further explanation, the source says the company presently intends to stay with its current models and does not intend to bring out new lines.

Wayne put its first POS pump on the street back in 1985, Collins says, and has since developed an entire management system for the gasoline/C-store outlet.

Shell has taken on the Wayne Plus/3 system at 245 locations. The system integrates gasoline dispenser control, electronic cash register functions and credit card processing in one countertop device.

Wayne officials say the system is "fully interactive" with Shell's credit card processing network.

The Wayne Plus/3 console takes up about 1.5-sq.ft. of counter space and controls the fuel and C-store operations. It features customer terminals at the pump as well.

Tokheim's card reader in the pump is similar to other pump manufacturers in its visual design. POS terminals are on both sides of the pump and list price for a single terminal is in the competitive range of \$6,000, the company says.

Russ Hamilton, POS manager for Tok-



In-pump POS devices that offer customers cash or credit options also provide instructions from a two-line screen guiding customers through the credit transaction.

heim, says 80% of their major oil company clients are either testing or actually rolling out programs with the terminal, a clear sign of a catching trend, he believes.

On a related note, Hamilton mentioned the latest thoughts on next-generation terminals involve cash accepters in the pump. The concept would open up the convenience of paying at the pump to customers who want to pay cash. But issues of security still have to be resolved, Hamilton says. "There is the danger of theft, but certainly con-

venience is going to drive [development of the technology]," Hamilton says.

Ucker of Diebold says her company does offer a terminal that accepts cash, so the technology does exist among third-party vendors. Ucker does, however,

recommend the cash-accepting devices be used at attended locations. At unattended outlets, the temptation to break into the POS terminal is greater, she says. But she adds that the firm has not had problems with vandalism of their equipment.

## Getty Expands Its Second-Generation POS

East Coast marketer Getty Petroleum continues the rollout of its modified "Fleetminder" POS units, anticipating 70 locations up and running by the end of the year.

Having begun its POS program in the mid-1980s, Getty described the modifications as "software and hardware" upgrades designed to "increase the ease of use and durability of the unit," the company says.

Officials say 400 units will be in use by 1995.

Similar to a bank automatic teller machine (ATM), Getty's island card reader has a card swipe, key pad and display screen. The card reader controls the entire pump is-

Where The Oil Companies Stand With POS Equipment

| Company  | No. of POS Terminals (Salaried) | No. of POS Terminals (Incl. Jobber) | Current POS Terminal Model                                                        | Previous POS Terminal Model |
|----------|---------------------------------|-------------------------------------|-----------------------------------------------------------------------------------|-----------------------------|
| American | 170                             | 3,000                               | N/A<br>Petrofina                                                                  | N/A                         |
| Amoco    | 3,000+                          | 3,150                               | Micromax<br>Schlumberger<br>Pinstrip<br>VeriFone                                  | same                        |
| Arco     | 2,000                           | N/A                                 | N/A                                                                               | N/A                         |
| Atlantic | N/A                             | 600                                 | N/A                                                                               | N/A                         |
| Chevron  | 50                              | 3,800                               | Wayne Plus/3;<br>Schlumberger<br>Micromax 3000;<br>Techlink; VeriFone             | NCR                         |
| Citgo    | 15                              | 7,800                               | VeriFone<br>Zon II XP                                                             | VeriFone Zon                |
| Exxon    | 5,500                           | N/A                                 | VeriFone;<br>Techlink;<br>Gilbarco<br>Suntronic                                   |                             |
| Getty    | 70                              | N/A                                 |                                                                                   |                             |
| Mobil    | 3,680                           | N/A                                 | Datacard 840<br>Datacard 360                                                      | Datrol 3205                 |
| Phillips | 280                             | 2,600                               | Suntronic 960;<br>NCR 2157;<br>VeriFone Zon II<br>XP; Taltek 727;<br>Datatrol 440 |                             |
| Sheli    | 2,420                           | N/A                                 | Wayne; Gilbarco                                                                   |                             |
| Sunoco   | N/A                             | 2,700                               | N/A                                                                               | N/A                         |
| Texaco*  | N/A                             | 14,000                              | N/A                                                                               | N/A                         |

Notes: N/A=Not available

\*Numbers do not involve Star Enterprises



land, the company says.

Getty signed on with Suntronic Technology Group, Inc., back in 1989 for development of its POS terminal. Getty says Suntronic's software can be expanded and modified to meet its future needs.

Currently, the system handles Getty's fleet fueling card, Getty credit card, MasterCard, Visa and Discover cards.

Joseph Quinto (left), Getty's director of marketing, stands with Getty and Suntronic officials involved in the Northeast/Mid-Atlantic marketer's new rollout of second-generation POS equipment.





Customer convenience appears to be driving the major oil companies push toward in-pump POS terminals.

But cash accepters in the pump are still in the development stage. Currently, oil companies are investing in the proven idea of plastic cards and integrated pump devices.

Shell says it has 420 "integrated" systems from both Wayne and Gilbarco and an additional 2,000 direct locations with leased lines using VeriFone terminals. Shell intends to upgrade those facilities based on market conditions.

Mobil is also testing in-pump POS terminals, citing added customer convenience as one of the main factors in the test. Currently, Mobil has upgraded its POS terminals from Datatrol 3205 models to Datacard 8404. The first oil company to get into POS in a big way in the early 1980s, Mobil has a total of 3,680 terminals today, all of which accept bank debit cards.

### Jobber POS

Petroleum marketers, too, have been riding the wave of major oil development in POS. While many report smooth transitions into supplier programs, others find their suppliers demand high monthly fees and are clumsy with their POS delivery.

Still, many marketers are satisfied with their POS programs. Bob Anderson of Twin Lakes Petroleum in Athens, Texas, says the POS system he has through Exxon has been performing well. His stations use a dial-up line that can process bank cards in roughly 20-30 seconds. Anderson says that at busy moments it creates somewhat of a traffic jam, but overall the system works well.

With the system in place for about two years, Anderson sees one of the primary benefits as being able to get his money from credit sales quickly.

Other marketers agree. Joe Burress of Burress Oil Co., Inc., Paris, Texas, says that despite the added expenses that a marketer may take on with POS, electronic credit is a valuable service simply because money from credit sales comes in faster.

Burress just completed a POS cost assessment of one of his unbranded locations and is deciding whether to brand the location in order to get the outlet onto a POS program.

When considering monthly fees at about \$65/mo. or buying the equipment for \$600-\$700, Burress says a location would have to do between 40,000-50,000 gal./mo. to make the switchover worthwhile.

Beyond the dollars and cents, Burress calls the decision to switch a judgement call marketers must make for the convenience of electronic payment.

For some marketers, it's a matter of how on the ball their supplier is with their marketer POS programs. Monthly fees, hardware and software vary from supplier to supplier, and how successfully a major can transfer the POS know-how to the jobber is a pivotal issue.

Jim McGuire of McGuire Oil Co. in Mobile, Ala., says

that of his three suppliers, Citgo appears to have the best package.

With the VeriFone package, McGuire pays Citgo \$25 mo. per location and has typical transaction times of 10-12 seconds. One of his other suppliers charges \$90 mo. or gives McGuire the option of buying the equipment at \$1,200. But in buying the equipment, a marketer runs the risk of the hardware becoming obsolete, he adds. In addition, McGuire says the setup time and backup are not as good as Citgo's.

McGuire's third supplier is having problems with its software. Transaction times can run as long as a minute—an excruciating waiting period for a customer wanting to fill up his or her fuel tank and go. On top of that, the oil company charges \$80-\$90 mo. for the program.

"The key is for the oil company to offer a POS program that is inexpensive and that has the capability of being updated."

### Two fronts

Observers see the major oil company POS activity expanding in two primary areas: high-end integrated systems and low-end card-swipe devices.

Jonathan Briggs, a pioneer in Mobil's early push into POS and who is now with VeriFone, says, "Personally, I see growth at both ends of the [POS] spectrum." At one end, he foresees lower-cost equipment—even lower than what marketers have traditionally seen—and at the other end more integration of all station electronic functions.

Briggs defines integration as the card-reading pumps tied into a central in-store control. "The only practical way to make all that work is to have a central site control device that...keeps all those transac-



A closeup of a Tokheim keypad and display screen reveals the latest development in POS terminals.





Customers using credit cards are seeing more and more oil companies drop two-tier pricing in favor of same price for cash or credit policies.

tions straight," Briggs explains.

Pump manufacturers making these integrated systems are also coming up with in-store machines that will fuse the tasks of C-store retailing, pump control and credit transactions.

On the low-cost end of the POS spectrum, major oil companies are asking their branded marketer stations to sign onto their networks, Briggs says. Oil companies are looking to get rid of the paper processing and get POS down into the lower-volume stations, he says.

Higher-volume marketers are already on POS, Briggs asserts. Now the majors are searching for solutions to offer the lower-volume stations at a price they can afford.

At present, marketers must sacrifice certain features, such as quick processing times, to get an affordable system.

"In order to sell into that segment, it's going to require machines with fairly robust features, yet at a price point that is lower than what we've been used to seeing," Briggs says.

### Credit, debit changes

As trends in equipment unfold, so too do developments in the debit and credit fields. Same price for cash or credit policies appear to be spreading as Chevron continues implementation of its program and Texaco, to a limited extent, announces a switch to same price in the Midcontinental states.

At the same time, debit seems to be maintaining a holding pattern among major oil companies. Companies like Citgo and Phillips are cautiously joining in with test programs, but very little else is happening.

On the credit front, Texaco talked with NPN earlier this month about its one-tier cash or credit policy that it says will begin in its eight-state Midcontinental region.

one Texaco spokesman, adding that the initial motivation for the switch was consumer demand for the policy.

A spokesman at Chevron says its switch to single-tier pricing was also customer driven. Their stations on the West Coast are already on such a policy. Now Chevron is in the process of implementing the program east of the Rockies, the company says.

So far, says a Texaco spokesman, both motorist and marketer reaction have been favorable.

Marketers with retail outlets may look at the change in a positive light, says one Southern marketer.

He says marketers generally viewed the credit price as 3¢ more the marketer had to give back to the oil company. As a result, the marketer would post street prices that much higher to compensate for what he had to pay back to the supplier.

The move to single-tier pricing will hopefully mean less hassles all around, he says.

In the debit area, the mood among the oil companies continues to be one of caution.

Phillips has less than a dozen locations accepting debit in a test mode, and company officials don't foresee any big jumps into accepting bank cash cards in the near future.

As with other oil companies, credit appears to be the major thrust of Phillips' program. The Bartlesville, Okla.-based supplier has roughly 2,900 stations on its POS network, with about 280 of those being salary-operated units.

F.D. Mallow, director of station automation for Phillips says the oil companies, with the advent of the convenience store boom, are becoming retail merchants. "It's going to be more economical for business to handle credit [electronically]," Mallow says.

The test involves about 450 outlets in Oklahoma, Kansas, Missouri, New Mexico, Nebraska, Colorado, west Texas and central Arkansas.

Marketers in those states will have the option of whether to participate.

"Our long-term goal is 100% customer satisfaction," says

Citgo is also conducting a debit test in Nevada in the first quarter of this year, the company says. But like Phillips, Citgo officials expressed an overall caution about the payment alternative.

Oare says Citgo will approach debit on a state-by-state basis, using the Nevada test as a guide. Oare adds, "[In areas] where debit is proven to be a critical form of payment, Citgo says it will strongly consider including that option in their POS offering."

### Communications, too

New developments in communication technology may be the next POS venture oil companies undertake.

Oil companies interested in quick authorization at a reasonable price are looking into the alternative of satellite transmissions. Observers say the technology exists today and that further development of equipment to access the science is ongoing.

One example of such a satellite service comes from a company called Merchant-Tech International, which offers an instant credit card authorization and data broadcast system for C-stores.

According to Atlanta-based Merchant-Tech, the system can authorize a transaction in a quarter of a second, much faster than many dial-up lines that take as much as 20-30 seconds. The key is a negative file within the terminal itself that is updated overnight by satellite transmissions. The space age technology is not "on-line," but provides terminals with fresh credit information on a daily basis.

The system bypasses phone lines altogether, and could bring POS into its next phase of development—an increased use of satellite and radiowave technology.

Some companies are also reported to be testing communications programs such price notification for jobber customers via satellite transmission.

Briggs of VeriFone says research into satellite and radio wave data transmission is continuing, with new equipment being developed to handle the communication option. He expects the search for less costly communications will continue.

Companies will more than likely conduct pilot tests in '91, broadcasting negative files using the new technology, Briggs predicts.

In the end, Briggs sees a combination of technologies being used by the major oil companies. He explains that there will never be a single "universal solution" to point-of-sale.

"People may get disgruntled at the phone bill, but I don't see a mass departure from that technology," Briggs says, adding that oil companies are going to see more tests of technology alternatives in the future.

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PUBLICATION HAVE BEEN FILMED

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24-30

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**NPN**  
**NATIONAL PETROLEUM NEWS**  
Established in 1909

**VOL. 83**

**NO. 4**

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## Editor's Viewpoint

Editors generally take a lot of pride in every issue they produce. Most look forward to putting a long, complicated issue to bed, but then can't wait until that issue is printed. This April issue of *National Petroleum News* is no exception; it's one that the entire staff is pretty darn proud of. I know I am.

Why? Well, this time out, just about the entire *NPN* editorial staff took a collective plunge into the murky waters of a subject that has bewildered and frustrated just about every serious observer in the industry at some point. The subject: How many retail gasoline outlets are there in the United States.

To find the answer, *NPN* staffers, including editors and reporters, spent many hours making call after call to every state in the Union (and repeat calls to many states) to track down the number of retail outlets where consumers can purchase gasoline. We plowed through the corridors of those states' governmental departments and agencies, seeking a reliable source that could produce a precise, or at least credible, number of the state's retail outlets.

You can read the results of this research effort beginning on page 26. Unlike the much more limited U.S. Census Bureau figures, our counting procedure includes conventional "service stations," C-stores, unattended outlets, truckstops, car washes, garages, etc., anywhere that gasoline is sold to the motoring public.

As you know, this subject has sparked much controversy and debate within the petroleum industry. Many so-called "authorities" have conducted studies and made estimates, most of which have little reference to the realities of the marketplace. The various service station population counts have fluctuated from as high as 226,000 to a unimaginable low of 96,000. The Census Bureau itself has added to the confusion by altering its tabulations (about 10 years ago) to include only an arbitrary number of "pure" gasoline stations. Partly as a result of all this confusion, we've been hearing harrowing tales about how the service station population is "dying," that the attrition will get worse, that motorists everywhere will have problems finding a place to get their tanks filled.

Now, however, the doomsayers might want to rethink their evaluations of the service station market. We did. And we're convinced that we have come up with the most accurate figures available anywhere. We don't claim that these figures are precise down to the last pump—nobody has that data—but our counting procedure provides marketers with a comparable and much more accurate universe figure than the guesswork and stumbling about that have been commonplace in recent years.

From now on this research effort will be an annual exercise for *NPN*. We are determined to provide, as we hope we already do, our readers with the best in-depth research and statistics available.

While I'm sure there will be some who question our figures, we are confident that this data, now and each successive year we conduct this survey, will provide an accurate picture of our service station market.

We will make *NPN* the leader in providing the most accurate station count possible. And that's a guarantee you can take to the bank.

—Peggy Smedley

NPN—National Petroleum News (ISSN 0149-5267) is published monthly (except semi-monthly in June) by Hunter Publishing Limited Partnership, 950 Lee Street, Des Plaines, Illinois 60016, (708) 296-0770.

© NPN—National Petroleum News

Second class postage paid at Des Plaines, Illinois and additional mailing offices.

Subscriptions are solicited only from executive, management and supervisory personnel at the supplier and wholesale level of oil marketing, engaged in the distribution, merchandising, transportation and storage of petroleum, TBA products, and convenience store items. Position, company and segment of industry must be indicated on subscription orders.

Basic subscription rates for one year to individuals in the petroleum marketing industry are: U.S. \$60; Canada \$69 (U.S. \$); Foreign surface mail \$75 (U.S. \$); Foreign airmail \$110 (U.S. \$). Non-industry personnel rates for one year are: U.S. \$75; Canada \$84 (U.S. \$); Foreign surface mail \$90 (U.S. \$); Foreign airmail \$134 (U.S. \$). Single copy price: U.S. & Canada \$9.00 (includes first class postage); Foreign \$11.00 (includes airmail postage). Mid-June Factbook: U.S. \$30; Canada \$40; Foreign \$70. The publisher reserves the right to accept or reject any subscription. (R) Title registered in U.S. patent office. Change of address: Notices should be sent promptly; provide old mailing label as well as new address; include ZIP or postal code. Allow 6-8 weeks for change. Send address changes, correspondence regarding subscription service or subscription orders to: Circulation Department, NATIONAL PETROLEUM NEWS, 950 Lee Street, Des Plaines, Illinois 60016. Or call (708) 296-0770, 9 a.m. to 4 p.m.

Postmaster: Send address changes to NPN—NATIONAL PETROLEUM NEWS, 950 Lee Street, Des Plaines, Illinois 60016.



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NPN's comprehensive new survey shows that the retail gasoline outlet universe is above 200,000, not far below the old peak of around 226,000 set in 1972. The new figures put the old surveys in perspective and set the stage for a new annual survey.

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Changing brands, diversifying into C-stores and investing in new personnel has enabled Alabama jobber Jim McGuire to position himself for stability now and growth in the future.

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Reading, Pa.-based Berks Products Corp. has shown its support for service personnel serving in the Persian Gulf by donating heating oil to military spouses on the home front.

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## ● TRENDS

### Jobbers Foresee Short-Term Squeeze

Despite the end of the Persian Gulf war, marketers predict a squeeze on margins in the spring, as competition for recession-conscious consumers brings street prices down faster than wholesale costs.

Marketers around the country have reported 10% decreases in volume during the winter months, with sharp drops in the purchase of midgrade and super unleaded gasolines. "It seems like people just stopped buying super unleaded altogether, preferring that ping in their engines over higher prices," says a jobber in Jackson, Miss.

Government forecasts say the economic downturn is likely to slow energy consumption, despite low oil prices. An Energy Information Administration (EIA) report says an economic recession has slowed growth since at least the fourth quarter of 1990. Average growth in the U.S. economy is expected to be slightly negative in 1991, and declines or substantial slowing of growth for most energy products are expected in 1991, the report says.

The EIA report forecast a continuing slide in motor gasoline demand for the year, a prediction that follows an estimated 1.6% decline in 1990. Part of the reason lies in slow economic growth, which translated into slowing highway travel activity. A jobber in Paris, Texas, confirms this analysis by reporting declines in volume due to slowing construction work in his area. His stations are heavily dependent on construction vehicles, and when building is down, so are his volumes.

Vehicle miles traveled are estimated by the EIA study to have risen only by 2.2% last year, the smallest increase in eight years and only half the growth rate of 1989.

The report also showed shrinking consumption of premium grade gasolines. Premium's share of the market, which claimed 22% prior to the invasion, had shrunk to only 15% by October, the smallest share for that grade since 1985, the report says. Unleaded's share of the market, which stood at 63% in July, increased to a record 71% by October.

With the recession putting the brakes on demand, jobbers were seeing increased competition on the street. A recent drive through the metropolitan area of Memphis put street postings at branded locations between \$1.11-\$1.12. But independents were pricing at about \$1.09, with one West Memphis truckstop pricing gasoline at \$1.05—6¢ below branded competition.

Since the incidents in late fall of high wholesale prices amidst low direct-op street postings, margins have been steady, jobbers report.

A Rock Island, Ill., jobber says there were no drastic changes in the Quad Cities market in the week following the U.S.-announced cease fire. The jobber says that retail and wholesale gasoline prices have either been holding steady or showing a slight decline when the U.S. launched its ground war in late February. When the cease fire was announced, it was more of the same. The marketer says the market showed none of the volatility that it did last August.

A rural marketer in Colby, Kan., attributed slight price changes in his area following the war not to the war itself, but to conversions being made at local refineries.

Other markets have seen a different scenario since the end of the gulf war. Marketers in Memphis, for instance, have seen margins squeezed by rising competition. According to one Memphis jobber, wholesale prices are staying high while street prices are dropping.

"Competition in Memphis has always been tough," says the Memphis marketer. "There's a lot of supply out there and everybody's volumes are down. I don't see [the situation] ending until April or May."

All this comes amid forecasts of lower oil prices. The EIA report predicted that falling demand, combined with more than adequate inventories worldwide, are promoting the expectation of continued low prices, especially as the Gulf crisis abates. The expectation was reinforced, the report says, by the sales of strategic oil reserves. Marketers in early March say they have yet to feel the affect of low oil prices at the rack.

Jobbers see the margin squeeze as short term, however, when the summer driving season and low oil prices will begin to affect the marketplace. —By Angel Abcede

## ● MARKETPLACE AT A GLANCE

### AVERAGE GASOLINE PRICES IN THE U.S. (per gal.)

|                | Gasoline<br>(All types) | Leaded<br>Regular | Unleaded<br>Regular | Unleaded<br>Premium |
|----------------|-------------------------|-------------------|---------------------|---------------------|
| JANUARY        |                         |                   |                     |                     |
| U.S. City Avg. | \$1.304                 | \$1.246           | \$1.247             | \$1.431             |
| Regions        |                         |                   |                     |                     |
| Northeast      | 1.373                   | 1.519             | 1.299               | 1.495               |
| North Central  | 1.252                   | 1.223             | 1.211               | 1.385               |
| South          | 1.297                   | 1.244             | 1.227               | 1.410               |
| West           | 1.312                   | 1.248             | 1.277               | 1.444               |

Source: U.S. Dept. of Labor, Bureau of Labor Statistics.

### STOCKS (Add 000 bbl.)

|                      | 3/1/91  | 3/2/90  |
|----------------------|---------|---------|
| Gasoline (Total)     | 222,576 | 246,393 |
| Gasoline (Unleaded)* | 172,632 | 187,038 |
| Jet Kerosine         | 42,591  | 39,870  |
| Distillates          | 103,258 | 114,401 |
| Residual             | 46,014  | 49,900  |

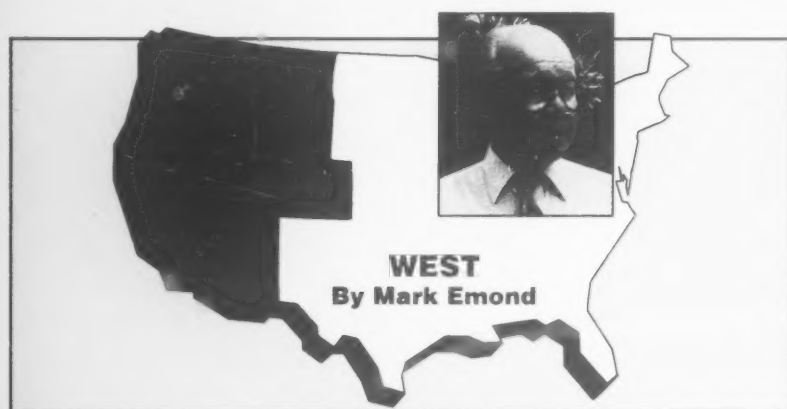
\*Included in gasoline total.

Source: American Petroleum Institute.

Kent has said in the past that he dropped the Kent name for his quick lubes in favor of Avis to make expansion into new markets smoother through name recognition.

Currently, Kent Lubrications operates 15 Avis Lube franchise locations in West Texas. The two new locations in Phoenix represent initial entry into that market for both Kent and Avis.

"We feel that this expansion is a logical outgrowth of our existing Avis Lube operations," Kent says. "Phoenix provides demographics well-suited to the success of fast oil change operations." **NPN**



## How Higher Oil Prices Affect States, Companies, Consumers

Higher oil prices became traumatic after Iraq invaded Kuwait last August, adding urgency to the question of who benefits or gets hurt the most. Looking at it from the Western point of view, it probably is no surprise that the state of Alaska benefits, but it might be less obvious that consumers in Hawaii especially get hurt.

What about importers, exporters, producers, consumers? What about consumers of gasoline, heating oil, aviation fuel, residual? Each is a different case, and it also matters what states they're in.

These and other questions related to higher oil prices were studied by two economists of the Federal Reserve Bank's 12th district, Ronald H. Schmidt and Carolyn Sherwood-Call. Their results were published in a weekly letter of the Federal Reserve Bank of San Francisco. (The 12th district comprises nine Western states—Alaska, Arizona, California, Hawaii, Idaho, Nevada, Oregon, Utah and Washington.)

Here are extensive excerpts and conclusions:

An area that produces more oil than it consumes stands to gain when crude prices rise. Of the district's states, only Alaska exports more than it imports (net exporter). It produced 738-million bbl. in 1988 while consuming only 43-million bbl. of oil products.

States that import more than they export (net importers) are hurt by higher oil prices, and the degree is determined by how dependent they are on imports. In the Western states, excluding Alaska, each person consumed an average of 14.9 bbl. of oil products, 1.5 bbl. above the average for the nation, hence they were hurt that much more by higher oil prices than

people in the nation as a whole.

California had below-average net imports of 9.2 bbl. per person, while other states had net imports ranging from 19 bbl. per person in Arizona to 39 bbl. per person in Hawaii. The more net imports, the more higher prices hurt.

How do higher oil prices affect oil wealth? They provide windfall gains for oil producers, but the consequences are not the same for companies as for states.

Although higher oil prices might appear to benefit a region that produces a lot of oil, it isn't necessarily so. If oil profits remain in the region, they benefit the region, otherwise not.

Therefore, since Alaska and California production is dominated by major oil companies, which are owned by shareholders, higher earnings and dividends are distributed nationally and even internationally. Oil profits are not concentrated in the region unless shareholders are.

In Alaska, some of the wealth is kept there. A \$1 bbl. increase in oil prices raises \$150-million in annual oil revenues for the state.

The effects of higher prices on the region's consumers is another matter. Obviously, if you consume more, you bear more of the burden of higher prices. The effects also depend on how much you consume of what products.

In the case of motor gasoline, the per capita consumption in the West as a whole is almost identical to the national average. Thus the effect of higher gasoline prices is about the same in the West, on average, as in the rest of the country.

Gasoline consumption ranged from 7 bbl. per person in Hawaii to 14 bbl. per

person in Nevada, but most Western states were close to the 11.5 bbl. national average. California, the largest user of gasoline in the region, consumed 11.3 bbl. per person in 1988.

Distillate consumption in the West was below the national average of 5 bbl. per person, although a very large variation exists among the states. In Idaho, Oregon, Nevada and Washington, consumption was high, ranging from 5 to 7 bbl. per person, but it was nothing like the 17 bbl. per person in Alaska.

The other states in the West rely less on distillate than does the rest of the country, on average.

In aviation fuel, Western consumption exceeded 3 bbl. per person in 1988, more than a bbl. per person higher than the national average, because of longer average travel distances. Alaska consumed 30 bbl. per person, Hawaii 9 bbl. and Nevada 4.6 bbl.

Although residual fuel oil is less important than gasoline, distillates and aviation fuel, it is very important in Alaska and Hawaii because of the substantially greater resid consumption there. Hawaii is particularly affected because residual fuel is used to generate electricity. This makes people in Hawaii especially vulnerable to higher oil prices.

The Federal Reserve Bank economists, Schmidt and Sherwood-Call, summarize that when oil prices rise, there are winners and losers, as we have seen, but who they are is governed by many factors.

Except for the government of Alaska, the winners are not concentrated in any particular state or states. Higher oil revenues of major oil companies are distributed across the nation to owners of oil stocks. The effect of higher oil prices on Western consumers is much the same as it is on consumers in the rest of the nation.

### Per Capita Consumption of Oil in Western States, 1988 (bbl.)

| All         | Oil  | Gasoline | Distillates |
|-------------|------|----------|-------------|
| Alaska      | 81.3 | 10.5     | 16.7        |
| Arizona     | 19.4 | 11.3     | 2.6         |
| California  | 22.8 | 11.3     | 3.0         |
| Hawaii      | 39.0 | 7.5      | 3.1         |
| Idaho       | 19.8 | 10.7     | 5.2         |
| Nevada      | 30.4 | 13.9     | 6.3         |
| Oregon      | 24.0 | 11.5     | 6.0         |
| Utah        | 23.8 | 11.5     | 4.6         |
| Washington  | 28.1 | 11.6     | 5.2         |
| Nine States | 24.4 | 11.3     | 3.8         |
| U.S.        | 25.5 | 11.5     | 5.0         |

Source: Federal Reserve Bank of San Francisco. Data for Twelfth Federal Reserve District.



## Self-Serve Preference Still Growing

United States motorists continue to choose self service by a wide margin over full service when purchasing gasoline, according to Amoco Oil Co. marketing research. Since 1975, self service gasoline sales have grown dramatically, from 22% to 81% in 1989.

Last year was no different. The market share for self-serve last year bumped up another two percentage points to 83% over 1989. The growth curve has leveled off in the past couple of years, but the data shows that almost five out of six Americans now prefer self serve.

**Percent Self-Serve Motorist Gasoline Sold by Brand—Total 1989 versus Total 1990—Total U.S.**

| Brand        | 1989 | 1990 | Chg. |
|--------------|------|------|------|
| Arco         | 92   | 91   | -1   |
| Phillips     | 88   | 86   | NC   |
| Conoco       | 86   | 87   | +1   |
| Citgo        | 86   | 86   | NC   |
| Shell        | 85   | 86   | +1   |
| Union        | 84   | 85   | +1   |
| Amoco        | 82   | 83   | +1   |
| Sohio/BP     | 82   | 81   | -1   |
| Texaco       | 79   | 80   | +1   |
| Chevron      | 78   | 79   | +1   |
| Exxon        | 78   | 79   | +1   |
| Mobil        | 75   | 76   | +1   |
| Sunoco       | 59   | 62   | +3   |
| Independents | 87   | 87   | NC   |
| Industry     | 81   | 83   | +2   |

**Self-Serve Motorist Gasoline Market Share by State (Percent) Total 1989 versus Total 1990**

|                | 1989 | 1990 | Chg. |
|----------------|------|------|------|
| Alabama        | 83   | 85   | +2   |
| Arizona        | 94   | 95   | +1   |
| Arkansas       | 85   | 87   | +2   |
| California     | 92   | 93   | +1   |
| Colorado       | 94   | 95   | +1   |
| Connecticut    | 74   | 77   | +3   |
| Delaware       | 86   | 86   | +2   |
| D.C.           | 87   | 89   | +2   |
| Florida        | 92   | 94   | +2   |
| Georgia        | 89   | 91   | +2   |
| Idaho          | 90   | 91   | +1   |
| Illinois       | 90   | 91   | +1   |
| Indiana        | 88   | 89   | +1   |
| Iowa           | 85   | 87   | +2   |
| Kansas         | 94   | 87   | +3   |
| Kentucky       | 80   | 83   | +3   |
| Louisiana      | 81   | 93   | +2   |
| Maine          | 57   | 62   | +5   |
| Maryland       | 87   | 89   | +2   |
| Massachusetts  | 85   | 87   | +2   |
| Michigan       | 89   | 90   | +1   |
| Minnesota      | 84   | 86   | +2   |
| Mississippi    | 83   | 86   | +3   |
| Missouri       | 85   | 86   | +1   |
| Montana        | 91   | 92   | +1   |
| Nebraska       | 82   | 83   | +1   |
| Nevada         | 94   | 94   | NC   |
| New Hampshire  | 68   | 71   | +3   |
| New Mexico     | 92   | 92   | NC   |
| New York       | 80   | 83   | +3   |
| North Carolina | 89   | 91   | +2   |
| North Dakota   | 81   | 84   | +3   |
| Ohio           | 87   | 88   | +1   |
| Oklahoma       | 86   | 89   | +3   |
| Pennsylvania   | 68   | 71   | +3   |
| Rhode Island   | 69   | 71   | +2   |
| South Carolina | 90   | 91   | +1   |
| South Dakota   | 80   | 83   | +3   |
| Tennessee      | 85   | 87   | +2   |
| Texas          | 92   | 93   | +1   |
| Utah           | 95   | 96   | +1   |
| Vermont        | 62   | 61   | -1   |
| Virginia       | 90   | 91   | +1   |
| Washington     | 92   | 94   | +2   |
| West Virginia  | 78   | 81   | +3   |
| Wisconsin      | 90   | 92   | +2   |
| Wyoming        | 85   | 87   | +2   |

## Conoco Details New Image Package

To "encourage support and continued growth of the Conoco brand," the Houston-based company has rolled out an updated marketing and image program for its jobbers. They are responding favorably to the new plan.

Among the program's improvements:

- Accrual programs allowing jobbers to lift as little as 90% or as much as 120% of contract volume as long as 100% of quarterly contract volumes are lifted.
- Image improvement funds that will accrue quarterly with 100% quarterly contract liftings.
- Paint programs. Conoco will continue to supply paint from its parent company Du Pont free of charge, and will pay 50% of painting costs if jobbers use Conoco-approved contractors.
- Credit cards. The elimination of the 3% credit card fee, introduction of a new fleet card and a national pre-approved card solicitation program.

● Electronic point-of-sale. Conoco will require its Conoco Credit Express in all retail outlets by June of next year. The company will also reduce bank card fees. Jobbers have responded positively to the program improvements, saying that new image incentives increase their ability to stay competitive.

Tim Ramsey of Tex-Con Oil Co. out of Austin, Texas, says the new package will be a big help to Conoco jobbers looking to upgrade their stations.

"I strongly feel if we hadn't improved our image we would have lost market share. I don't know that we gained, but [upgrading] was more of a defensive move than an offensive one."

Don Robinson of Minute Stop Inc. in Bay Minette, Ala., observes little or no change in what he calls "bottom line dollars," but explains that the programs will speed up the time it takes to obtain his rebates.

## Marketers Fear Onboard Canister Rejection

Marketers around the country are becoming increasingly worried that the Dept. of Transportation (DOT) might pull the plug on onboard canisters as a potential alternative to Stage II vapor recovery equipment [NPN—Mar. '91, p7].

Another concern of marketers is that DOT might approve the canisters, but require Stage II implementation as an interim measure in "moderate" ozone nonattainment areas. Marketers in those areas had been hoping the canisters would be approved instead of Stage II, saving them the trouble of installing expensive equipment only to have to remove it when it is no longer required.

In the Midwest, the moderate nonattainment areas include metropolitan Detroit, Louisville and Cincinnati.

Jeff Burgoon, vice president of Fisher Fuels, Inc. near Detroit, says his "temperature rose 10° just thinking about [the rejection of the canisters]." He believes that canisters are basically "goof proof," that they take out the human factor that makes Stage II nozzles so fallible. It is easier to upgrade cars on the assembly line than it is to force customers to learn how to use new equipment, he says.

Fisher Fuels, mostly a heating oil business, operates only one gasoline station. If he is "forced into it," Burgoon says he will install the Stage II equipment, but he will feel lucky if he can get away with a \$35,000 price tag.

The reaction of John Spears III, general manager of gasoline operations for Garb-Co., Inc. of Louisville, is one of "keen disappointment."

"We are reaching a point where common sense has taken a vacation. No one wants dirty air. No one wants to pollute the air. No one wants to do the wrong thing," but the government must put things in perspective, he says. Although he reads all that he can on the subject, Spears says he knows of no studies that show effective gains in air cleanliness as a result of the implementation of Stage II.

In the West, the moderate ozone nonattainment areas include metropolitan Salt Lake City.

Noel Cook of Salt Lake's Tri-Valley Distributing says a decision against onboard canisters "would take its toll. Some jobbers won't be able to recover. Some people have put their life savings into renovating their stations. They can't take another hit" such as being forced to install Stage II equipment. However, Cook sees no choice but to comply with any such requirement.



## Gray, Gray and More Gray, That's What Feds See for '91

Federal energy experts are detached but hardly sanguine about the oil industry's outlook for the balance of 1991.

Their latest short-term forecast says that the only things that are going to increase in the petroleum business over the next six to nine months are crude oil imports and distillate consumption, and really not enough of an increase in either category to merit special attention.

The government forecasters normally use three scenarios for their projections:

Pump prices for gasoline (all grades and services, including taxes) are expected to average \$1.24 gal. this summer and to decline to \$1.14 gal. by the fourth quarter. Unleaded regular pump prices slipped below the \$1 gal. level in mid-to-late February in many marketplaces.

Product supplies are expected to be adequate all the way around.

"Absent any additional disruption to production and transportation facilities in the Persian Gulf there is market pressure for continued low oil prices," the govern-

### Nothing to Get Excited About, Say the Feds

|                                | 4th Qtr.<br>1990 | 1st Qtr.<br>1991 | 2nd Qtr.<br>1991 | 3rd Qtr.<br>1991 | 4th Qtr.<br>1991 | Full Year<br>1990 1991 |         |
|--------------------------------|------------------|------------------|------------------|------------------|------------------|------------------------|---------|
| Assumptions (\$ per bbl.)      |                  |                  |                  |                  |                  |                        |         |
| Crude Imports                  | \$29.15          | \$20.00          | \$20.00          | \$20.00          | \$20.00          | \$21.75                | \$20.00 |
| Forecasts (\$ per gal.)        |                  |                  |                  |                  |                  |                        |         |
| 'Gas' Retail                   | \$1.45           | \$1.25           | \$1.25           | \$1.24           | \$1.14           | \$1.22                 | \$1.22  |
| Heating Oil                    | 1.34             | \$1.11           | \$1.02           | \$0.95           | \$1.01           | \$1.07                 | \$1.04  |
| Product Supplied (million b/d) |                  |                  |                  |                  |                  |                        |         |
| Gasoline                       | 7.13             | 6.94             | 7.10             | 7.26             | 7.23             | 7.21                   | 7.13    |
| Distillate                     | 3.06             | 3.46             | 2.83             | 2.77             | 3.24             | 3.05                   | 3.07    |
| Residual                       | 1.08             | 1.33             | 1.02             | 1.01             | 1.33             | 1.22                   | 1.17    |
| Total *                        | 16.87            | 17.06            | 16.13            | 16.59            | 17.38            | 16.96                  | 16.79   |
| Net Imports                    | 5.92             | 6.96             | 7.16             | 7.37             | 7.62             | 7.17                   | 7.28    |

(\*) Total includes jet fuel and all other products.

Source: EIA, Short-Term Energy Outlook, January 1991.

high, low and medium and follow through by focusing on the middle line as their so-called "base" forecast. This time around, however, they used the low line—\$20 bbl. crude instead of the median \$25 bbl. separating the \$20 and \$30 bbl. lines.

In other words, they didn't believe—in late January, at least, when this forecast was sent to the printer—that imported crude oil will command much better than \$20 bbl. in all of 1991. Although it doesn't say it in so many words, this implies that they do not anticipate any kind of a price spike in 1991. Last fall, in the wake of the Iraqi invasion of Kuwait, crude prices skyrocketed to \$39 bbl. even though there were oil surpluses all over the world.

ment experts said.

"Falling demand, combined with more than adequate inventories worldwide, are promoting the expectation of continued low oil prices, especially if the gulf crisis abates."

Focusing on the U.S. economy, the latest energy forecast said:

"An economic recession has been slowing growth in energy demand since at least the fourth quarter of 1990. Average growth in the U. S. economy is expected to be slightly negative in 1991, and declines or substantial slowing of growth for most energy products are expected this year, especially if energy prices remain at or above the levels of late January."

## Dealers Lose Case Against Mobil on Lease Provisions

A U.S. District Court in Florida recently granted summary judgment and dismissed the claims of three Florida dealers who had challenged Mobil Oil Corp.'s franchise agreement, alleging the agreement violated the federal Petroleum Marketing Practices Act (PMPA) as well as the full faith and fair dealer provisions of the broader Uniform Commercial Code.

The three dealers—Darby Corwin and Jim Francis, D.J. Service of Tampa Bay and David Reed, Tyrone Gulf Care, St. Petersburg—were unhappy with the franchise agreement they were given after Mobil acquired their stations as part of a 50-station buyout from BP America. The dealers objected that Mobil's lease provisions covering such items as hours of operation, rents, minimum gallonage, assignment and survivorship were not reasonable or material to the franchise. They complained, too, that they were offered the agreement on a "take it or leave it" without the chance to negotiate.

However, the court rejected the dealer complaint, noting that Mobil had not terminated or nonrenewed the contracts as required for the filing of a PMPA action. The court also ruled that Mobil had not violated any state law requirement of good faith and fair dealing and that the dealers' challenge to the terms of the company's franchise agreement was either unsupported by the evidence or "premature." In particular, the court described the attack on Mobil's assignment and survivorship provisions as premature.

The dealers' attorney, Rick Farrell, Farrell and Barr, Raleigh, N.C., says there's a "good likelihood" the court's ruling will be appealed to the 11th Circuit Court of Appeals in Atlanta.

Robert J. McCool, Mobil's vice president of U.S. marketing, said, "We are extremely pleased with this decision, which further confirms Mobil marketing practices to be both legal and fair."

## Major Oil Companies Join Florida Used-Oil Program

After a year of participating in Florida's used-oil collection program, BP America reported 117 of its participating dealers collected nearly 10,000 gal. of oil. BP's Gulf division was the first major oil company to pledge its support for the Florida program, beginning in August 1989. (For a report on used-oil programs nationwide, [NPN—Feb. '91, p35].)

Other majors joining the program were Mobil, Amoco and Texaco.

Mobil started with 150 company-operated stations, and was actively encouraging its lessee dealers to sign up. The company ran television advertising on the importance of used-oil recycling.

As Amoco dealers joined the campaign, the company ran ads in major metropolitan newspapers listing participating dealers.

Texaco encouraged its 120 Florida retailers with oil-change capabilities to accept used oil from the public. In some of its television commercials, it included a message on the importance of used-oil recycling. Stations that had television monitors at the islands ran 30-second commercials on the subject. Delivery trucks carried signs promoting used-oil recycling.

*An NPN Exclusive*

# Counting Procedure Shows How Retail Outlet Population Is Greater than Suspected



By Richard J. Shaner  
Executive Editor  
and NPN Staff

A comprehensive, up-to-the-minute survey conducted by *National Petroleum News* indicates that the retail gasoline outlet population currently exceeds 200,000 and may have stabilized, after years of retrenchment, within hailing distance of the old peak set in 1972.

Simply stated, the new counting concept focuses on the number of places where motorists can buy gasoline for their vehicles at retail pumps. It includes conventional "service stations," convenience stores, unattended outlets, truckstops, car washes, garages, etc., anywhere and everywhere that gasoline is sold to the public.

It provides marketers with a comparable and much more confirmable universe figure rather than the hodgepodge of guesses that have been commonplace in recent years.

It's quite probable that when a new survey is made by *NPN* early next year, the gap between the 1991 count and the 1972

record will have narrowed considerably and may be just a memory. Right now, it's relatively close. *NPN's* 1991 population total is 210,120 compared with 1972's 226,459. This is only about 16,000 below the old high water mark.

This, in itself, is surprising because the general feeling has been that the number of places where motorists can purchase gasoline has been on a frightening downhill ski ride for 15-20 years. There is no question that thousands of retail stations have gone belly-up in the last decade or so, forced out by the economics of staying alive or by being displaced and gobbled up by big stations that absorbed the efforts of several smaller ones in given neighborhoods. Environmental requirements, including underground storage tanks, insurance and Stage II requirements were particularly troublesome in 1989 and 1990.

But many of these losses have been made up by the expansion of convenience

## Pump Prices Reflect Growth And Turmoil

A half-century ago, retail gasoline taxes—federal and state—cost consumers less than .06¢ gal. Even with them, pump prices for regular ran only 18¢ gal. Today, federal and state tax averages are in the 30¢ gal. range and pump prices (regular grade) in 1990 averaged \$1.15 gal. for the year and hit as high as \$1.40 gal. in the final quarter.)

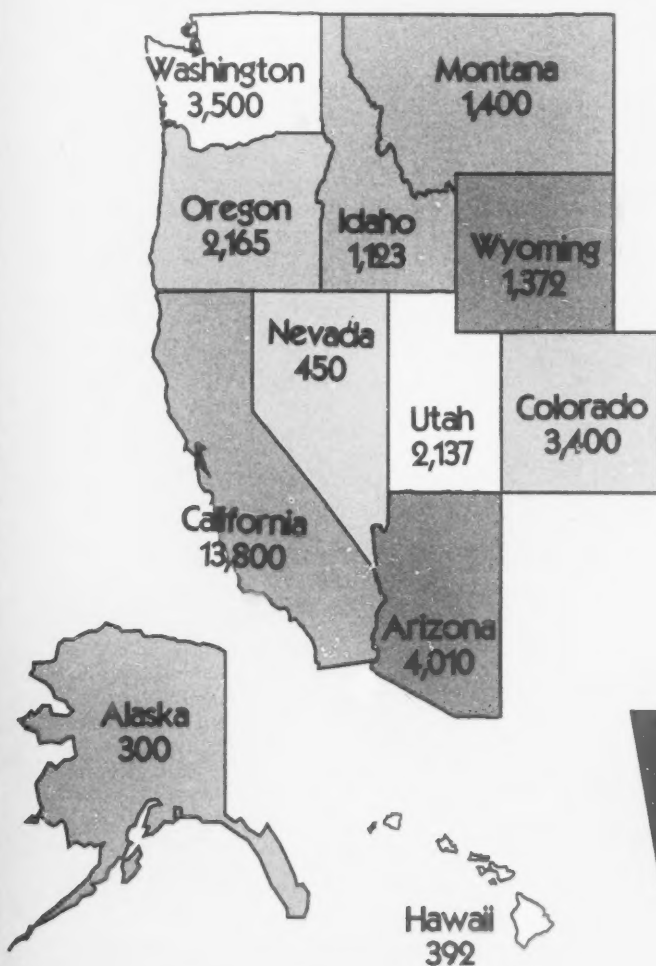
Here's an overview for the past 50 years. It must be remembered, however, that unleaded gasoline was not a marketing factor until 1978 when it was mandated by the federal government as a replacement for leaded gasoline. Today that turnover process is virtually completed with leaded gasoline sales down to about 5% of total consumption.

### Retail Gasoline Prices: A Half-Century of Changes

|      | Leaded<br>Regular | Unleaded<br>Regular |
|------|-------------------|---------------------|
| 1990 | \$1.150           | \$1.170             |
| 1989 | 0.997             | 1.022               |
| 1988 | 0.900             | 0.946               |
| 1987 | 0.897             | 0.948               |
| 1986 | 0.857             | 0.927               |
| 1985 | 1.115             | 1.203               |
| 1984 | 1.129             | 1.212               |
| 1983 | 1.157             | 1.241               |
| 1982 | 1.222             | 1.296               |
| 1981 | 1.311             | 1.378               |
| 1980 | 1.191             | 1.245               |
| 1975 | 0.572             | *                   |
| 1972 | 0.361             | *                   |
| 1970 | 0.356             | *                   |
| 1960 | 0.311             | *                   |
| 1950 | 0.267             | *                   |
| 1940 | 0.184             | *                   |

\* Unleaded not in marketplaces.

Source: American Petroleum Institute, Petroleum Basic Data Book, 1990.



# WEST



## 20-Year Overview: The Way We Are Now, the Way We Were Then

|                   | Total Outlets<br>(Add 000) |                |                | Gasoline Gallonage<br>(Add 000,000) |                |                |
|-------------------|----------------------------|----------------|----------------|-------------------------------------|----------------|----------------|
|                   | 1991(a)                    | 1987(b)        | 1972(c)        | 1989(a)                             | 1987(b)        | 1972(c)        |
| Alabama           | 6,500                      | 2,229          | 4,510          | 2,122                               | 2,084          | 1,796          |
| Alaska            | 300                        | 214            | 241            | 239                                 | 243            | 112            |
| Arizona           | 4,010                      | 1,241          | 2,357          | 1,755                               | 1,683          | 1,094          |
| Arkansas          | 3,764                      | 1,357          | 3,144          | 1,274                               | 1,242          | 1,113          |
| California        | 13,800                     | 9,812          | 19,513         | 13,339                              | 12,543         | 9,996          |
| Colorado          | 3,400                      | 1,568          | 3,170          | 1,535                               | 1,566          | 1,296          |
| Connecticut       | 1,900                      | 1,671          | 2,798          | 1,387                               | 1,485          | 1,309          |
| Delaware          | 450                        | 279            | 557            | 349                                 | 338            | 290            |
| Dist. of Col.     | 134                        | 115            | 318            | 183                                 | 181            | 232            |
| Florida           | 10,152                     | 5,933          | 9,199          | 6,138                               | 5,915          | 3,899          |
| Georgia           | 7,000                      | 3,273          | 6,730          | 3,573                               | 3,421          | 2,680          |
| Hawaii            | 392                        | 355            | 480            | 392                                 | 385            | 253            |
| Idaho             | 1,123                      | 558            | 1,193          | 490                                 | 462            | 451            |
| Illinois          | 10,100                     | 4,655          | 10,211         | 4,994                               | 4,772          | 4,837          |
| Indiana           | 4,500                      | 2,854          | 6,235          | 2,675                               | 2,746          | 2,741          |
| Iowa              | 4,169                      | 2,020          | 2,613          | 1,410                               | 1,370          | 1,653          |
| Kansas            | 3,062                      | 1,576          | 3,609          | 1,294                               | 1,266          | 1,428          |
| Kentucky          | 2,446                      | 2,058          | 3,921          | 1,862                               | 1,855          | 1,626          |
| Louisiana         | 6,600                      | 1,934          | 3,921          | 2,043                               | 2,063          | 1,658          |
| Maine             | 700                        | 673            | 1,224          | 628                                 | 607            | 518            |
| Maryland          | 2,450                      | 1,846          | 3,012          | 2,158                               | 2,068          | 1,775          |
| Massachusetts     | 2,500                      | 2,738          | 4,698          | 2,520                               | 2,492          | 2,276          |
| Michigan          | 8,500                      | 4,164          | 8,919          | 4,377                               | 4,288          | 4,537          |
| Minnesota         | 3,598                      | 2,289          | 4,585          | 2,102                               | 2,033          | 2,061          |
| Mississippi       | 6,000                      | 1,374          | 2,727          | 1,258                               | 1,270          | 1,203          |
| Missouri          | 7,200                      | 3,119          | 6,280          | 2,758                               | 2,754          | 2,646          |
| Montana           | 1,400                      | 548            | 1,190          | 444                                 | 441            | 427            |
| Nebraska          | 3,000                      | 1,163          | 2,265          | 801                                 | 776            | 884            |
| Nevada            | 450                        | 441            | 798            | 633                                 | 568            | 366            |
| New Hampshire     | 1,050                      | 534            | 888            | 527                                 | 514            | 391            |
| New Jersey        | 3,860                      | 3,791          | 5,768          | 3,531                               | 3,586          | 3,170          |
| New Mexico        | 2,066                      | 696            | 831            | 821                                 | 813            | 647            |
| New York          | 6,800                      | 5,982          | 11,359         | 6,770                               | 6,169          | 6,027          |
| N. Carolina       | 10,643                     | 3,547          | 6,946          | 3,369                               | 3,318          | 2,714          |
| North Dakota      | 1,245                      | 471            | 910            | 361                                 | 381            | 423            |
| Ohio              | 6,205                      | 5,362          | 11,723         | 5,024                               | 5,012          | 4,960          |
| Oklahoma          | 4,700                      | 1,705          | 4,153          | 1,678                               | 1,773          | 1,516          |
| Oregon            | 2,165                      | 1,352          | 2,828          | 1,366                               | 1,313          | 1,192          |
| Pennsylvania      | 6,000                      | 5,192          | 11,256         | 4,710                               | 4,590          | 4,769          |
| Rhode Island      | 602                        | 487            | 901            | 385                                 | 397            | 401            |
| S. Carolina       | 5,200                      | 1,833          | 3,720          | 1,829                               | 1,681          | 1,398          |
| South Dakota      | 1,245                      | 556            | 1,171          | 398                                 | 393            | 464            |
| Tennessee         | 6,000                      | 2,491          | 5,157          | 2,633                               | 2,755          | 2,104          |
| Texas             | 11,000                     | 8,568          | 17,118         | 8,749                               | 8,866          | 6,888          |
| Utah              | 2,137                      | 849            | 1,504          | 751                                 | 764            | 595            |
| Vermont           | 856                        | 369            | 596            | 284                                 | 282            | 243            |
| Virginia          | 6,000                      | 2,740          | 4,648          | 3,043                               | 2,994          | 2,165          |
| Washington        | 3,500                      | 2,003          | 3,945          | 2,316                               | 2,215          | 1,648          |
| West Virginia     | 2,800                      | 1,013          | 2,156          | 837                                 | 829            | 735            |
| Wisconsin         | 5,074                      | 2,735          | 5,182          | 2,122                               | 2,047          | 2,147          |
| Wyoming           | 1,372                      | 415            | 772            | 326                                 | 313            | 279            |
| <b>Total U.S.</b> | <b>210,120</b>             | <b>114,748</b> | <b>226,459</b> | <b>115,558</b>                      | <b>113,930</b> | <b>100,069</b> |

(a) This compilation embraces all outlets where gasoline is sold at retail; it includes service stations, convenience stores, car washes, etc.; a universe, in effect, of retail gasoline outlets; the survey was completed in January 1991.

(b) These are the U.S. Bureau of Census figures for 1987 but include only those service stations which have employees and payrolls and generate more than half of their income from gasoline sales. Automatically excluded are convenience stores, car washes, etc.

(c) These are the U.S. Bureau of Census figures for 1972 and are generally considered a "universe count" because only a handful of places, beyond orthodox service stations, sold gasoline at retail at that time.

Sources: NPN state-by-state telephone survey for 1991; U.S. Census Bureau, *Censuses of Retail Trade, 1987 and 1972*.

stores into gasoline marketing, and by the construction/modernization programs of the majors and big independents alike.

The new counting concept makes up for the inadequacies of the U.S. Census Bureau's *Survey of the Retail Trades*, which is made every five years, and for the fragility of another key U.S. Commerce Dept. report, *Franchising in the U.S. Economy*, which had been used as a basis for providing interim service station totals.

The new approach counts in, instead of ignoring, the tens of thousands of retail units with gasoline service that have been a growing part of the convenience store world since the late '70s. It looks at them as full-fledged members of the gasoline marketing scene, peer equals for service stations.

The problem with the so-called "official" Census Bureau survey is that the collection signals and data bases were changed several times in recent years so the figures were no longer comparable with prior years. For example, in 1972, about the only place that a motorist could buy gasoline was at a "service station." In 1972, the Census Bureau said there were 226,459 of them and this total, in effect, represented the "universe." C-stores were almost meaningless in the gasoline business at that time.

In 1982 and 1987, the Census Bureau eliminated Mom-and-Pop stations and tallied only those which had employees and formal payrolls. They classified as "service stations" only those which generated 50% or more of their income from gasoline sales. In 1987, the Census Bureau came up with a national total of 114,000 service stations, which was sad indeed by comparison with 1972's 226,000. But the figures were not comparable because one was a universe and the other a bobtailed count.

During the late '70s and all through the '80s, the convenience store industry burgeoned by the thousands to the current total of an estimated 80,000, of which two out of three or three out of four (take your pick) have gasoline facilities. This created such a gray area that only generalizations could be used to estimate the retail outlet population. At best, few marketers thought the total for all outlets was more than 200,000, let alone hard on the heels of the all-time high of yesteryear.

NPN's approach was nationwide in scope and, in effect, a repackaging of the numbers so that each state would be responsible for its own statistics. NPN staff members contacted every state in the union and the District of Columbia to make sure every voice was heard.

At the outset, it must be realized that many states do not have so-called "official" figures or procedures for isolating,



### The Top 10 Across the Board

|             | Total<br>Outlets<br>in 1991(a) |             | Winners'<br>Increases<br>'91 v. '72(b) |               | Losers'<br>Decreases<br>'91 v. '72(c) |
|-------------|--------------------------------|-------------|----------------------------------------|---------------|---------------------------------------|
| California  | 13,800                         | N. Carolina | +3,697                                 | Texas         | -6,118                                |
| Texas       | 11,000                         | Mississippi | +3,273                                 | California    | -5,713                                |
| N. Carolina | 10,643                         | Louisiana   | +2,679                                 | Ohio          | -5,518                                |
| Florida     | 10,152                         | Alabama     | +1,990                                 | Pennsylvania  | -5,256                                |
| Illinois    | 10,100                         | Arizona     | +1,653                                 | New York      | -4,559                                |
| Michigan    | 8,500                          | Iowa        | +1,556                                 | Massachusetts | -2,198                                |
| Missouri    | 7,200                          | S. Carolina | +1,480                                 | New Jersey    | -1,908                                |
| Georgia     | 7,000                          | Virginia    | +1,352                                 | Indiana       | -1,735                                |
| New York    | 6,800                          | Florida     | +953                                   | Kentucky      | -1,457                                |
| Louisiana   | 6,600                          | Missouri    | +920                                   | Minnesota     | -987                                  |

(a) 1991 NPN telephone survey; (b), (c) 1991 NPN telephone survey v. NPN Factbook, 1972 Census Bureau data.

### More Top 10's—Gallage and Brand Names

|              | Total<br>Gallage<br>(add 000)<br>1989(a) |            | Top<br>Mkt.<br>Shrs.<br>(bil.gal.) (b) |
|--------------|------------------------------------------|------------|----------------------------------------|
| California   | 13,339                                   | Shell      | 10.1                                   |
| Texas        | 8,749                                    | Chevron    | 9.6                                    |
| New York     | 6,770                                    | Exxon      | 8.9                                    |
| Florida      | 6,138                                    | Texaco     | 8.6                                    |
| Ohio         | 5,425                                    | Mobil      | 8.5                                    |
| Illinois     | 4,994                                    | Amoco      | 8.4                                    |
| Pennsylvania | 4,710                                    | BP America | 6.6                                    |
| Michigan     | 4,376                                    | Marathon   | 5.8                                    |
| Georgia      | 3,574                                    | Citgo      | 5.1                                    |
| New Jersey   | 3,531                                    | Sun        | 5.1                                    |

(a) Federal Highway Administration; (b) NPN Factbook 1990.

for counting purposes only, retail gasoline stations from other types of business.

This includes the motor vehicle departments, the licensing departments and the tax divisions in more than half of the states in the country.

As a matter of fact, it's easier to find out the number of underground storage tanks in almost any state than it is to determine the number of service stations above them.

That's because federal law mandated establishment of environmental offices in each state, and the collection of appropriate data, including county-by-county inventories of UST facilities, so that federal and state regulations can be administered. Since the mandate specified only storage tanks, no one apparently gave a hoot about the number of stations above them.

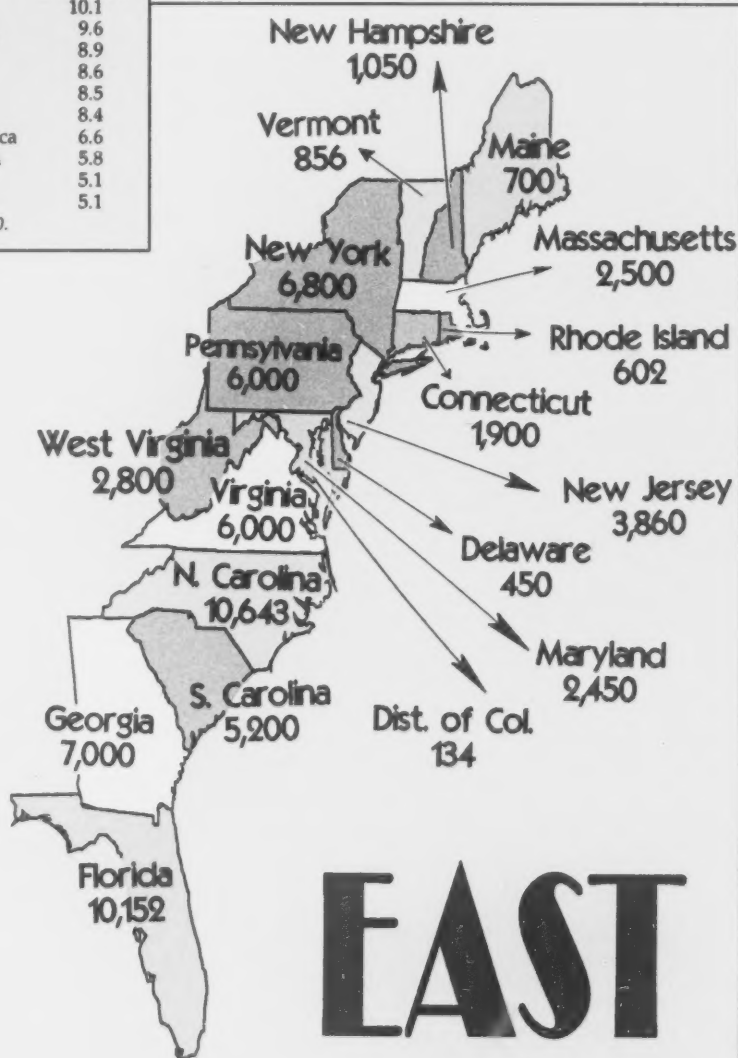
The lack of "official" tallies forced the NPN staffers to track down other responsible sources in state administrations who might have reasonable knowledge of the gasoline marketplaces and are in a position to make reliable estimates. These included weights and measures departments which, while not responsible for totals, were responsible for the accuracy of every retail pump in business. Key trade associations were contacted, too, because of their specialized knowledge.

About two-thirds of the numbers gathered by NPN are "hard" numbers, i.e., figures based on registration, licensing

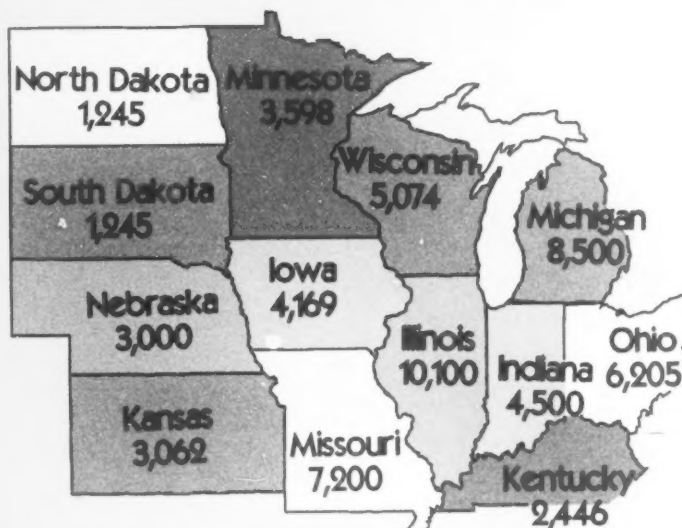
and tax division compilations. The remaining one-third ranges from "unofficial" estimates and in a couple of cases "guesstimates" based on the best available knowledge.

The totals for about half of the states indicate their gasoline outlet populations today are greater than they were in 1972. That was surprising in its own right because the general assumption had been that all 50 states had declined, that none was better off now than 20 years ago.

Some of the state totals seem exaggerated and out of step with reality. Take North Carolina, for example. It gave its retail outlet population as 10,643, which makes it the third greatest in the nation—bigger than Florida, Illinois and other populous areas that have much higher gasoline consumption totals. But North Carolina has an annual reporting proce-



# MIDWEST



dures that counts its retail gasoline outlets county by county.

"We have a lot of small ones down here, probably more than any other state," says a state association executive. "They're just about everywhere. I wouldn't be surprised at all at the number of 10,000 gal./mo. and 20,000 gal./mo. outlets we have, the kind you don't often find in most places anymore."

California, with the most outlets in the country, was a real problem child in getting an estimate. In 1972, California had almost 20,000 outlets. Today its Equalization Board can come up with a figure for true service stations, but confesses it has "no idea" how many convenience store types with gasoline there are. Secondary sources were used to get an acceptable (and authoritative) total for California.

A Washington state official says she had been trying for a year to get a retail gasoline station population total for her state by contacting state department officials she thought should know. No one, she says, had anything. Completely frustrated, she's now in the process of making her own count and hopes to have it completed this month or next.

Texas was another state that provided a total for true service stations but said it didn't know how many C-stores sold gasoline, even though most sources in the Lone Star State say it would be easier to count those that don't than those that do.

The importance of convenience stores as gasoline marketers cannot be ignored.

Collectively, they sell billions of gallons of gasoline annually, perhaps as much as 20-25% of the national total. Realistically, it's virtually impossible to get specific statistics. There are no state-by-state breakouts on population totals, there are only guesses.

States that have kept up with their retail gasoline outlet populations in recent years include North Carolina, Florida, Iowa, Kansas and Maryland, to name a few.

States that now have more outlets than they did in 1972 include North Carolina, Mississippi, Louisiana, Alabama, Arizona, Iowa, South Carolina, Virginia, Florida and Missouri.

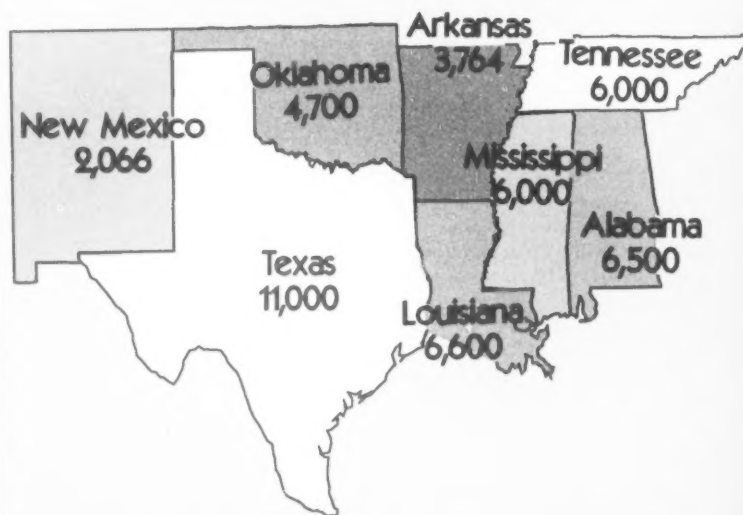
States that have lost ground include Texas, California, Ohio, Pennsylvania, New York, Massachusetts, New Jersey, Indiana, Kentucky and Minnesota. Texas' total is off 6,000, while California, Ohio and Pennsylvania's are down by at least 5,000.

"Somewhere, somehow, the federal government, the state governments or petroleum marketers themselves will have to do something about this," says one state official. "With all the licensing, tax, UST, Stage II and other regulations we have to live with, isn't it ironic we can't even tell you how many business places we have in the individual states and nationally? It's like saying we have a church full of people but no one knows how many parishioners are in the place."

As a service to the industry and to enhance its reputation as a source of factual petroleum marketing data, NPN plans to update its state-by-state scoreboard in 1992 and in subsequent years. Inasmuch as some states are already moving in the direction of better counting procedures, it may be assumed that the NPN count will become more accurate with each passing year.

**NPN**

# SOUTH



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May 1991

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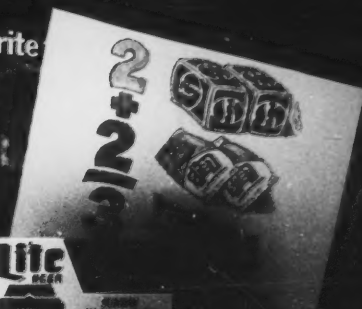
# Car Care Center Growth Slows, But Bright Future How Stations Can Thrive in TBA Aftermarket UST Bell Tolls for Smaller Marketers

# NPN

National Petroleum News



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**VOL. 83**

**NO. 5**

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## Editor's Viewpoint

**Let's hear it for Rep. John LaFalce (D-N.Y.) and Sen. Jake Garn (R-Utah) and all of their Congressional allies who have been willing to put it on the line in support for the small businessman.**

Last March, LaFalce introduced legislation in the House that would soften the blow for lending institutions under the Superfund law. If passed, this bill would undoubtedly make it easier for marketers to obtain financing for tank upgrades.

Garn introduced a similar bill in the Senate that is aimed at insulating banks and lending institutions from lending liability. The bill has since been referred to the Senate Banking Committee.

LaFalce, like others, is determined to help the small businessman survive in today's rough-and-tumble market. This conscientious representative recognizes that the current uncertainty businesses face in securing funding and the reluctance lenders have in extending credit has been a real stumbling block, one that's forcing marketers out of business at a break-neck pace. As these financial burdens mount, marketers and Mom and Pop locations are closing down, permanently leaving the marketplace wide open to be monopolized by fewer competitors.

Prospects for passage of the legislation are considered good, although the LaFalce bill is probably not in its final form. It is likely to be changed by the House Energy and Commerce Committee or in the House itself. When LaFalce introduced a bill last year with some of the same objectives, 290 Congressmen joined in as cosponsors. This year, his bill attracted 125 cosponsors in only two weeks.

LaFalce's bill would eliminate costly mandatory inspection or evaluation of a site before financing is extended. You can read the details on page 45.

What's so exciting about this whole package is that bankers like what they see. The American Bankers Assn. (ABA) supports both pieces of legislation. Incidentally, the ABA helped in drafting both bills. "A clarification of the lender's exemption is absolutely necessary" if banks are going to make loans to oil marketers, "and we believe the bills do that," explains Mark Borneko, an ABA spokesman.

Undoubtedly, EPA passed the buck when it established national regulations and then left the implementation of these regs to the state and local governing bodies. Now, EPA is conceding that marketers are confronted with serious financial problems that must be solved. EPA officials even acknowledge what marketers have been saying for months—the UST regs are negatively impacting rural areas and small towns. EPA reports that the closing of rural stations could force consumers to drive many miles to fill up their tanks and that the lack of nearby competition could lead to increased fuel prices.

Marketers are not able to get the financial assistance they need to remain viable and competitive in today's market. It's about time that regulators and lawmakers take notice and realize that protecting the environment is important, but so is maintaining the foundation on which this country was built. I recommend you telephone your local congressman to stress why these bills are so important to your survival and the survival of independent marketers alike.

—Peggy Smedley

NPN—National Petroleum News (ISSN 0149-5267) is published monthly (except semi-monthly in June) by Hunter Publishing Limited Partnership, 950 Lee Street, Des Plaines, Illinois 60016, (708) 296-0770.

\*) NPN—National Petroleum News

Second class postage paid at Des Plaines, Illinois and additional mailing offices.

Subscriptions are solicited only from executive, management and supervisory personnel at the supplier and wholesale level of oil marketing, engaged in the distribution, merchandising, transportation and storage of petroleum, TBA products, and convenience store items. Position, company and segment of industry must be indicated on subscription orders.

Basic subscription rates for one year to individuals in the petroleum marketing industry are: U.S. \$60; Canada \$69 (U.S. \$); Foreign surface mail \$75 (U.S. \$); Foreign airmail \$110 (U.S. \$). Non-industry personnel rates for one year are: U.S. \$75; Canada \$84 (U.S. \$); Foreign surface mail \$90 (U.S. \$); Foreign airmail \$134 (U.S. \$); Single copy price: U.S. & Canada \$9.00 (includes first class postage); Foreign \$11.00 (includes airmail postage). Mid-June Factbook: U.S. \$50; Canada \$60; Foreign \$70. The publisher reserves the right to accept or reject any subscription. (R) Title registered in U.S. patent office. Change of address: Notices should be sent promptly, provide old mailing label as well as new address; include ZIP or postal code. Allow 6-8 weeks for change. Send address changes, correspondence regarding subscription service or subscription orders to: Circulation Department, NATIONAL PETROLEUM NEWS, 950 Lee Street, Des Plaines, Illinois 60016. Or call (708) 296-0770, 9 a.m. to 4 p.m.

Postmaster: Send address changes to NPN—NATIONAL PETROLEUM NEWS, 950 Lee Street, Des Plaines, Illinois 60016.

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Target marketing is the wave of the future for convenience store operators and petroleum companies. Here are some tips on keeping your head above the competitive waters.

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While development of car care centers has slowed due to current economic conditions, new trends in the automotive aftermarket are creating a favorable environment for the future.

Page 32



Unocal's Clay R. Warnock and five automotive aftermarket executives discuss the challenges and trends for the service station TBA business.

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## Amerada Hess and Chevron Repeat as Top Importers

Amerada Hess Co., a New York-based independent, topped the list again in 1990 as the nation's biggest importer of distillates, resid and jet fuels. It also overtook Getty Oil Co. as the No. 1 importer of gasoline. Chevron Oil Co. repeated in 1990 as the leading importer of crude oil and of crude oil and product.

Here's the rundown as provided by the Energy Information Administration in mid-March, listing the top 10 in each of six categories as follows:

### THE 10 TOP IMPORTERS OF CRUDE AND PRODUCT IN 1990

#### Crude Oil and Product

| Company and headquarters | Volume<br>(000 b/d) | % of U.S.<br>Total |
|--------------------------|---------------------|--------------------|
| Chevron, San Francisco   | 725                 | 9.11               |
| Star (Texaco), Houston   | 621                 | 7.81               |
| Exxon, New York          | 483                 | 6.07               |
| Amoco, Chicago           | 475                 | 5.97               |
| Sun, Philadelphia        | 379                 | 4.76               |
| Shell, Houston           | 373                 | 4.69               |
| Mobil, Fairfax, Va.      | 336                 | 4.22               |
| BP America, Cleveland    | 305                 | 3.83               |
| Amerada Hess, New York   | 295                 | 3.71               |
| Coastal, Houston         | 286                 | 3.60               |
| TOP 10 TOTAL             | 4,278               | 53.78              |
| TOTAL U.S.               | 7,954               |                    |

#### Crude Oil Only

| Company and headquarters   | Volume<br>(000 b/d) | % of U.S.<br>Total |
|----------------------------|---------------------|--------------------|
| Chevron, San Francisco     | 655                 | 11.15              |
| Star (Texaco), Houston     | 610                 | 10.38              |
| Amoco, Chicago             | 454                 | 7.73               |
| Shell, Houston             | 352                 | 5.99               |
| Exxon, New York            | 325                 | 5.53               |
| Sun, Philadelphia          | 315                 | 5.36               |
| Mobil, Fairfax, Va.        | 309                 | 5.26               |
| BP America, Cleveland      | 270                 | 4.59               |
| USX (Marathon), Pittsburgh | 224                 | 3.81               |
| Koch, Wichita, Kans.       | 221                 | 3.76               |
| TOP 10 TOTAL               | 3,735               | 63.56              |
| TOTAL U.S.                 | 5,876               |                    |

#### Finished Motor Gasoline

| Company and headquarters | Volume<br>(000 b/d) | % of U.S.<br>Total |
|--------------------------|---------------------|--------------------|
| Amerada Hess, New York   | 46                  | 13.94              |
| Getty, Jericho, N.Y.     | 31                  | 9.39               |
| Bear Stearns, New York   | 21                  | 6.36               |
| Mobil, Fairfax, Va.      | 21                  | 6.36               |
| Citgo, Tulsa             | 20                  | 6.06               |

|                                  |     |       |
|----------------------------------|-----|-------|
| Cumberland Farms, Canton, Mass.  | 19  | 5.76  |
| C Itoh (Amer.), Houston          | 16  | 4.85  |
| Coastal, Houston                 | 15  | 4.55  |
| Texport, Houston                 | 15  | 4.55  |
| Global Petroleum, Waltham, Mass. | 14  | 4.24  |
| TOP 10 TOTAL                     | 218 | 66.06 |
| TOTAL U.S.                       | 330 |       |

#### Distillate Fuel Oil

| Company and headquarters         | Volume<br>(000 b/d) | % of U.S.<br>Total |
|----------------------------------|---------------------|--------------------|
| Amerada Hess, New York           | 64                  | 23.10              |
| Cargill, Minneapolis             | 32                  | 11.55              |
| Global Petroleum, Waltham, Mass. | 26                  | 9.39               |
| Coastal, Houston                 | 21                  | 7.58               |
| Axel Johnson, New York           | 13                  | 4.69               |
| Northville, Melville, N.Y.       | 13                  | 4.69               |
| G. E. Warren, Vero Beach, Fla.   | 13                  | 4.69               |
| Citgo, Tulsa                     | 9                   | 3.25               |
| Aron J & Co., New York           | 7                   | 2.53               |
| Astroline, Reading, Mass.        | 7                   | 2.53               |
| TOP 10 TOTAL                     | 205                 | 74.01              |
| TOTAL U.S.                       | 277                 |                    |

#### Residual Fuel Oil

| Company and headquarters         | Volume<br>(000 b/d) | % of U.S.<br>Total |
|----------------------------------|---------------------|--------------------|
| Amerada Hess, New York           | 93                  | 18.45              |
| Coastal, Houston                 | 49                  | 9.72               |
| Vitol S. A., Houston             | 42                  | 8.33               |
| Chevron, San Francisco           | 40                  | 7.94               |
| Clarendon Mktg., Stamford, Conn. | 36                  | 7.14               |
| Global Petroleum, Waltham, Mass. | 34                  | 6.75               |
| Clark Trading, Clayton, Mo.      | 24                  | 4.76               |
| BP America, Cleveland            | 21                  | 4.17               |
| Solomon, Inc., Greenwich, Conn.  | 18                  | 3.57               |
| Sun, Philadelphia                | 17                  | 3.37               |
| TOP 10 TOTAL                     | 374                 | 74.21              |
| TOTAL U.S.                       | 504                 |                    |

#### Jet Fuels

| Company and headquarters                    | Volume<br>(000 b/d) | % of U.S.<br>Total |
|---------------------------------------------|---------------------|--------------------|
| Amerada Hess, New York                      | 21                  | 20.39              |
| Citgo, Tulsa                                | 14                  | 13.59              |
| BP America, Cleveland                       | 11                  | 10.68              |
| United Airlines, Elk Grove, Ill.            | 9                   | 8.74               |
| Defense Fuel Supply Center, Alexandria, Va. | 8                   | 7.77               |
| Texport, Houston                            | 8                   | 7.77               |
| Cumberland Farms, Canton, Mass.             | 7                   | 6.80               |
| PanAm World Airways, New York               | 7                   | 6.80               |
| Texaco, White Plains, N.Y.                  | 7                   | 6.80               |
| Mobil, Fairfax, Va.                         | 5                   | 4.85               |
| TOP 10 TOTAL                                | 97                  | 94.17              |
| TOTAL U.S.                                  | 103                 |                    |

Source: Energy Information Administration, Petroleum Supply Monthly, Special Report, March 1991

## ● TRENDS

### A Fair Question: Can OPEC Win Control of Post-Iraq Supplies?

It was almost six and five and take your pick on April Fool's Day in trying to anticipate whether crude and product supplies will be long, short or merely passable sometime this summer. The same holds true for prices and margins.

The six, five and take your pick gambit is the one that gamblers use in trying to hedge bets against situations that could change overnight and bounce off the wall in any direction at any time, usually resulting in financial gain for some and sheer disaster for others.

Before, during and immediately after the Iraqi-Coalition Forces combat in the Persian Gulf several months ago, the general expectancies were that supplies of crude and product were more than adequate and probably would be worked down in sluggish marketplaces. That would theoretically result in little movement up or down in product supplies and prices throughout most of '91 and probably early '92 as well.

There was some talk that crude oil prices might collapse, as they did in 1986, as a result of surpluses everywhere. Some Organization of Petroleum Exporting Countries (OPEC) members whooped it up for production cuts to avoid this, however, and stabilized crude prices at the \$20-\$21 bbl. level. It was assumed that both a defeated Iraq and a scorched Kuwait would be very, very hungry for ready cash but also would be very, very slow in coming back into the crude marketplaces.

OPEC members agreed in early March to impose a 5% cut as quickly as possible, roughly 1-million b/d. As in the past, however, this seems to be merely another go-round in the numbers game that OPEC'ers are constantly playing.

Outsiders who monitor OPEC operations say the exporters are supposedly shooting for an output of 22.3-million b/d versus the current level of 23.4-million b/d. In reality, however, the cut looks more like 500,000 to 750,000 b/d to them, substantially less than the public announcements said.

Lawrence Goldstein, president of Petroleum Research Foundation Inc., in New York City, was quoted as saying, "This can hardly be called a cut—it's more like a seasonal decline. They're [actually] reducing production by about one-half of what they're claiming." Other OPEC watchers and industry analysts generally went along with those comments.

Now the Soviets have gotten into the act too.

Premier Mikhail Gorbachev announced in mid-March that the USSR is cutting its global crude oil exports in half. Specific figures are not available but it is believed the Soviets were shipping out about 2.3-million b/d at the end of 1990. No one's truly sure how much impact the Soviet cut will have this summer.

Question marks about OPEC's ability to control things in the first and second quarters of 1991 arose within hours after all 13 members had signed their names to the March pact.

The *Wall Street Journal*, for example, reported that "OPEC's new pact won't cut oil output as deeply as claimed, some officials say."

The *New York Times*, in similar vein, questioned whether OPEC could enforce the new accord. The article said, "Given OPEC's poor record in enforcing its previous production agreements, many analysts predict that prices could slide because the new output levels could greatly exceed demand and because individual OPEC members might try to increase revenues by producing more than their allocated levels."

What's going to happen this summer? Like the betting men say, it's six and five and take your pick.

—By J. Richard Shaner

## ● MARKETPLACE AT A GLANCE

### AVERAGE GASOLINE PRICES IN THE U.S. (per gal.)

|                       | Gasoline<br>(All types) | Leaded<br>Regular | Unleaded<br>Regular | Unleaded<br>Premium |
|-----------------------|-------------------------|-------------------|---------------------|---------------------|
| <b>FEBRUARY</b>       |                         |                   |                     |                     |
| <b>U.S. City Avg.</b> | \$1.198                 | \$1.137           | \$1.143             | \$1.321             |
| <b>Regions</b>        |                         |                   |                     |                     |
| <b>Northeast</b>      | 1.253                   | 1.349             | 1.179               | 1.376               |
| <b>North Central</b>  | 1.176                   | 1.156             | 1.136               | 1.301               |
| <b>South</b>          | 1.188                   | 1.140             | 1.123               | 1.298               |
| <b>West</b>           | 1.189                   | 1.127             | 1.150               | 1.326               |

Source: U.S. Dept. of Labor, Bureau of Labor Statistics.

### STOCKS (Add 000 bbl.)

|                            | 3/29/91 | 3/30/90 |
|----------------------------|---------|---------|
| <b>Gasoline (Total)</b>    | 211,450 | 228,283 |
| <b>Gasoline (Unleaded)</b> | 164,227 | 172,162 |
| <b>Jet Kerosine</b>        | 38,985  | 40,855  |
| <b>Distillates</b>         | 97,646  | 102,781 |
| <b>Residual</b>            | 43,366  | 44,118  |

\*Included in gasoline total.

Source: American Petroleum Institute.



# UST Bell Tolls for Smaller Petroleum Marketers

The word finally appears to be getting around to legislators and environmental agencies at national, state and local levels that if something isn't done, underground storage tank (UST) regulations are going to take a heavy toll on smaller marketers. Rural and small-town areas will be hurt most.

The reason is that the costs associated with USTs, while supportable by larger oil companies, may be insupportable for smaller ones—and it's the small ones that supply most of rural and small-town America.

It isn't that the Environmental Protection Agency (EPA) and others didn't know that the costs of preventing, finding and remedying leaking tanks would be heavy, but rather that they made no meaningful attempt to determine how heavy the burden would be, where it would fall and, most especially, how many UST owners and operators could not survive the costs.

The assumption was generally that, whatever the costs, oil marketers would foot the bills and pass them along to customers in the form of higher prices. This pass-along theory was soft-pedaled so as not to stir up the public unduly, and worse, it was also substantially wrong. Recent surveys and studies show that many smaller marketers may not be able to pass along their increased costs, with the consequence that they will go under, or at least be put at a severe competitive disadvantage.

Marketers throughout the country have begun to arm themselves with these new findings and distribute them to legislators and others who might be able to help. For some marketers, the battle has already been lost. For most, however, there are growing hopes—or should be—that help will arrive in time.

EPA has issued a draft rule, and bills have been introduced in the U.S. Senate and House, that would solve one of the gravest problems for gasoline marketers—the inability to get loans to make tank upgrades. EPA was considering whether to grant marketers an extension on UST compliance until more states can enact assistance programs.

EPA, not anxious to delve too deeply

into the murky consequences of its underground storage tank regulations, has finally done so officially—at the request of the Senate Appropriations Committee. In its study, EPA admits there are many serious problems for UST owners and operators, but it passes the buck to the states to work out solutions.

The Petroleum Marketers Assn. of America (PMAA), after analyzing EPA's study, says the agency "effectively shifts to the states the responsibilities of solving the critical problems imposed by the re-

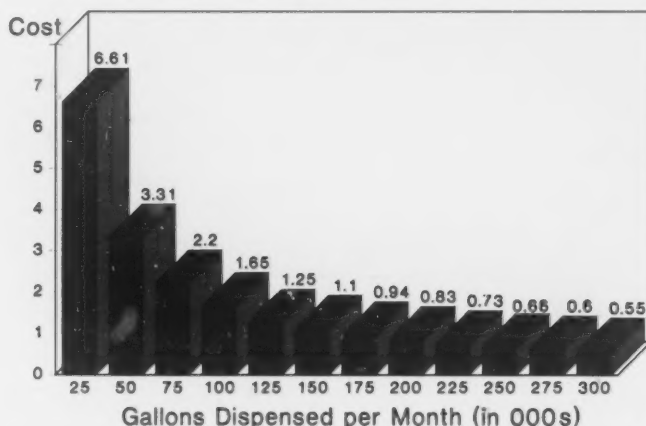
EPA's stated policy sets tank owners adrift while the agency awaits state action. But, notwithstanding these faults, EPA's report to the Senate committee is useful in what it recognizes are serious problems somebody must solve.

## What EPA found out

EPA says a significant number of small retail motor-fuel firms and single-station owners are expected to experience "severe financial distress" or "business failure" trying to comply with UST regs.

## Cost of UST Environmental Upgrades

(Cents per gallon by gallons dispensed/month)



Source: *Economic Impact on Independent Oil Marketers of Environmental Regulations*, by Jerome B. Siebert, economist, department of agricultural and resource economics, University of California, Berkeley.

quirements, and shirks its duty as the creator of the program to develop innovative and workable solutions."

The Senate committee asked EPA, among other things, to discuss actions it and other federal and state agencies can take to assist petroleum UST owners and operators to upgrade or replace their tanks, detect leaks and clean up after leaks and help UST owners to obtain affordable tank insurance to meet the financial responsibility mandates.

The buck was passed when EPA declared its role is to establish national baseline regulations and then to let the states implement the regulations. EPA accepted the responsibility only of providing funding, training and other support to help states, which it claims to have been doing. Petroleum marketers say they haven't seen much EPA support on issues vital to their survival.

EPA estimates that about 64% of small retail firms and 40% of single-station owners will experience at least temporary financial hardship, while about 30% of single service stations and 25% of small retail firms are expected to close or file for bankruptcy.

"Among service stations that are smaller than average, as most rural stations are, the impacts are expected to be more than twice as great: 89% could experience severe financial distress and 53% could fail," EPA says.

The report estimates that there are 80,300 single-station operators in the country and 63,000 small retail firms (both defined as having less than \$1-million in assets) that together account for more than 535,000 underground tanks.

When state funds are available for leak remediation, potential business failures drop to 14% for single service stations and

By Mark Emond  
Staff Reporter

8% for small motor-fuel firms, but severe financial distress caused by meeting the technical standards (such as leak detection and tank replacement or upgrades) does not drop.

In other words, even if state funds pay for corrective action, the cost of complying with technical standards for underground storage tanks are still substantial relative to the sales, profits and assets of smaller firms. EPA declares, "While state funds achieve the environmental objective of fostering cleanups and the economic objective of avoiding more closures, they do not significantly reduce the economic strains imposed by compliance with the technical standards."

EPA admits that the UST regs could cause greater problems in rural areas and small towns. The study says, "Impacts on rural areas have been minor so far... [but] disproportionate impacts...might grow more common as the regulations take effect."

EPA explains that the closing of rural stations could present two types of problems for rural consumers: first, even the nearest station will often be miles away; second, the lack of nearby competition could allow some isolated stations to raise fuel prices.

#### **What UST owners must do**

EPA says the costs of complying with underground storage tank regulations "pose a significant burden to many small owners and operators." For example, to obtain insurance, petroleum marketers must prove that their tanks aren't leaking or must fully upgrade their tanks. The range of costs for such activities are \$1,500 for a tank test at a three-tank facility, \$30,000-\$160,000 for upgrade or replacement and \$100,000 for corrective action.

Owners and operators of over 1,000 tanks were required to be in compliance with the financial responsibility regulations by January 1989. The deadline for those with 100-999 tanks was October 1989. The deadline for those with 13-99 tanks was extended to April 26, 1991, and for those with 12 or fewer tanks, Oct. 26, 1991.

EPA was considering PMAA's request for an extension of the 1991 deadlines at least until Dec. 22, 1992.

#### **What states can do**

EPA analyzed the kinds of steps federal and state agencies can take to help UST owners and operators meet compliance costs.

The EPA says the Federal Leaking Underground Storage Tank (LUST) Trust Fund, which cannot be used to provide economic relief without statutory changes, should not be changed.

## **How a Banker Is Helping To Get the Story Out**

Smith W. Brookhart III, president of Ozark Mountain Bank, a community bank in Branson, Mo., is alarmed by the way loans have been shut down for gasoline marketers, and he's trying to see what he can do about it.

Located in southeast Missouri where travel and tourism are a main business dependent on gasoline stations and convenience stores, the bank has made many loans on them over the years.

But in May 1990, the bank's board, on the advice of attorneys, decided flatly that no loans would be made anymore "on a gas station, convenience store, or anything else that's got a petroleum product in it," says Brookhart.

The banker explains that the decision came after the bank almost got "trapped" on an old gasoline station turned into a C-store. Brookhart says, "Fortunately, we got out with an audit done on the property. It didn't cost us \$100,000 to get out of it, but I was afraid it was going to when it started out."

Brookhart explains that that prior to this fateful experience, "we didn't know about this stuff. We heard rumors about it, and of course big city bankers talk about it. We knew about the Fleet Factors case, but we didn't know what the impact on us would be."

The banker says he didn't know all of the details of the new federal legislation on this matter, but, "for us, in terms of what our country lawyers are advising our board, until Congress puts back in

the verbiage that allows us to loan on a piece of ground and not pick up the liability, we're not going to mess with it. What we're looking for is protection from paying for the cleanup."

Brookhart has been active in the American Bankers Assn. to spread the word about the plight of petroleum marketers. "What's going to happen is that when community bankers start telling their little stories about their local filling station or convenience store that just got hammered by the EPA or somebody, those guys are going to shut off lending. Marketers are going to have to do their own financing. The banks aren't going to

**"What we're looking for is protection from paying for the cleanup."**

**—Smith Brookhart III**

do it," says Brookhart.

The bank president has warned local realtors of the risks, too. "What I tell them is that at this point there has to be a very strong suspect in the marketability of any service station. They could be pumping a lot of gasoline, but it would have darned little marketability if there's a suspect that's carrying a \$300,000 cleanup. I said to these guys, you need to be plugged into this, too."

But Brookhart is trying to help. "We have about 4-million tourists here a year, so we've got a lot of service stations and convenience stores serving the public. We've loaned to many of them. We still have loans outstanding on several of them, but we're not doing new ones. If telling our story will help out, we've got to get it done."

EPA contends the fund may not be large enough to perform all the cleanups it may be called upon to do; therefore, the agency doesn't think the fund's scope should be enlarged to help address the compliance cost problems of individual UST owners and operators.

The fund is large. Through a 0.1¢ gal. gasoline tax, \$500-million was collected for the fund, and in 1990 it was reauthorized to permit the collection of an additional \$500-million. This billion dollars is available only to cover cleanup costs when the responsible party is bankrupt or cannot be located.

The fund does not provide assistance for leak detection, tank upgrades, site assessments, or any expense other than cleanups.

This leaves to the states five options, EPA says, all of which have the aim of reducing the costs of leak detection, UST upgrading or replacement, closure, or corrective action to owners and operators. These options are direct state loans, loan guarantees, interest subsidies, grants and tax incentives.

EPA's analysis of each of these options is too detailed to report here, but a summary of the characteristics of different types of programs is shown in an accompanying table.

Note that the two assistance mechanisms that have the highest ability to aid the weakest firms are direct loans and grants. These mechanisms also have the highest startup costs.

UST owners and operators should study EPA's full analysis to judge which options would do the most good and which have the best chance of being adopted in their respective states.

### PMAA's day in court

PMAA made a major presentation to a House committee in March, pointing out the increasing difficulty of marketers to obtain financing to upgrade or replace their USTs. The presentation was made by Dave Robinson, chairman of Robinson Oil Co., Garden City, Kan., a small petroleum marketing company selling gasoline and diesel fuel in western Kansas. He is also a past president of PMAA.

Speaking to the House Energy and Commerce Subcommittee, Robinson said failure to obtain financing has forced many marketers to close stations, and the trend is likely to continue unless steps are taken to ease lenders' fears about making loans on underground tanks.

"Marketers are finding that financing is scarce or unavailable due to their lenders' fears of environmental liability," he said, noting that a recent survey conducted by PMAA and two other national industry groups showed that over the past two years, one-third of marketers who applied for loans to make upgrades and replacements were turned down.

Another problem, he told the subcommittee, is the prohibitive cost of UST liability insurance. The average premium a company has to pay for such insurance is now more than \$46,000 yr., more than double the cost in 1988, he said.

Robinson said the one-year extension granted small tank owners has given some of them time to obtain coverage through state trust funds, but many states still do not have such funds, and another extension is necessary to enable more state funds to become operational. He proposed an extension until Dec. 2, 1992.

He urged the subcommittee to amend the Federal LUST Trust Fund to allow the use of some funds from the program to augment the state programs on a matching basis.

He also called for low-interest loans to help small businesses comply with federal environmental statutes.

### Impact of UST regulations

An economist at the University of California, Berkeley, in a new study on the economic impact of environmental regulations on independent oil marketers, con-

cludes that not only are marketers in jeopardy, but the small businesses and farms they serve are also threatened. In fact, the whole economy is affected, including consumers.

"The survival and economic viability of the small business/entrepreneurial sector of California's economy is dependent on the convenient and economical availability of motor-vehicle fuel to transport goods and services as well as people to and from their workplace," wrote Jerome B. Siebert, of the university's department of agricultural and resource economics.

"Some sectors in particular, such as California agriculture, which is largely made up of small and medium-sized farms, is particularly vulnerable to disruptions and inefficiencies in the petroleum

"This economy-of-size factor has serious consequences for stations which must remain competitive in order to stay in business," the economist continued.

"Smaller stations will likely have to close due to the inability to either finance needed capital outlays or pass along cost increases in a competitive environment.... The pressure is likely to drive many more small operators out of business. Since the independent oil marketer tends to be the small and medium operator, the heaviest casualties are likely to occur in this sector.

"Since smaller-volume stations are in the more rural and agricultural areas of the state, it is likely that the impact will be felt to a greater degree in those areas than in high-volume urban and suburban areas.

"Cost increases will be difficult to pass on in the form of higher prices in the short

run, particularly in areas where stations are competitive. In the long run, prices will increase to consumers to reflect higher costs. In the interim, the adjustments will take place in the industry, both in terms of its structure and demand for its products.

"In areas where competition takes place among a great number of stations, competitive advantage will shift even more to those stations with high volume, as

the ability to pass along cost increases definitely lies with them."

The impact extends further. "Not all the costs of environmental regulation will be reflected in higher prices," he said. "If a station is closed because the owner cannot afford to take the necessary measures to meet environmental standards and cleanup is involved, the burden will likely fall on the public sector. In this case, tax revenues will likely have to be used to accomplish the necessary cleanup."

### The heavy toll

The stations in California that will suffer the heaviest casualties are not just a few; on the contrary, they are a substantial majority of all stations in the state.

This is shown in a new study of California gasoline station throughputs by the Western States Petroleum Assn. (WSPA), an industry trade group representing 50 major and large independent oil companies in the West. Of the 13,108 stations in the state, 8,969—or 68%—have monthly gasoline volumes of less than 100,000 gal. (See table on this page.)

Economist Siebert points out that costs do not flatten out until a volume of well over 100,000 gal./mo. is reached. Jim

### Monthly Gasoline Throughput of California Retail Stations

| Average Gal./Mo. | Branded      | Unbranded    | Total         |
|------------------|--------------|--------------|---------------|
| Below 50,000     | 1,712        | 3,661        | 5,373         |
| 50-100,000       | 2,907        | 689          | 3,596         |
| 100-150,000      | 1,892        | 39           | 1,931         |
| 150-200,000      | 1,644        | 61           | 1,705         |
| Over 200,000     | 413          | 90           | 503           |
| <b>Total</b>     | <b>8,568</b> | <b>4,540</b> | <b>13,108</b> |

Source: Energy and Environmental Analysis, Arlington, Va., for Western States Petroleum Assn.

product distribution system." Such disruptions "could have serious implications for economic growth, employment and consumer food prices."

### Unrecoverable costs

Siebert said small marketers are more heavily impacted by UST costs, and rural and small-town marketers, whose stations sell relatively small quantities of gasoline, must obtain substantially greater margins to survive. It's questionable whether they can obtain such margins.

Citing a survey of its members by the California Independent Oil Marketers Assn. (CIOMA), Siebert said replacement of three tanks costs about \$120,000. Amortized over 10 years at 11% interest, the monthly cost is estimated to be \$1,653. Cleanup of leaking underground storage tanks can run two to three times this amount.

The ability to recover this estimated cost is dependent in large part on the volume of gasoline sold. Siebert calculates that a station selling 25,000 gal. a month would need 6.6¢ gal. to recover the added costs, while one doing 300,000 gal. a month would need only 0.6¢ gal. (See table on page 45.)

Gigoux, executive vice president of CIOMA, says, "This basically says that if marketers are not pumping 100,000 gal./mo., they don't have the financial wherewithal to amortize all of the UST costs."

### Help may be coming

Federal legislation has been introduced, and EPA has proposed rules, that would attack a crucial problem: the inability of marketers to obtain loans for UST compliance, upgrading or other purposes.

Oil marketers throughout the country have reported how banks and other lenders have rejected loan applications for fear they could become liable for leaks, environmental damage and third-party damage claims.

The Superfund legislation, which established hazardous-waste cleanup procedures, meant to exclude lenders from such liabilities, holding only the parties actually managing the operation of the facilities responsible for environmental damage. But recent court decisions have invalidated that exemption.

The classic case is *U.S. v. Fleet Factors Corp.*, in which the U.S. 11th Circuit Court of Appeals ruled that a secured lender can be held liable under the Superfund law if it has the "capacity to influence" a business's handling of hazardous materials. This has been interpreted to mean that a lender can be inferred to have such influence.

Because this and other cases expose lenders to possible cleanup and other liabilities, droves of financial institutions have stopped lending to gasoline marketers and many others.

In March, Rep. John J. LaFalce (D-N.Y.) introduced legislation (HR-1450) that would reinstate the exemption intended in the Superfund law. Referring to the *Fleet Factors* case, LaFalce said, "The result of the current uncertainty is that certain businesses have found it difficult to secure funds, and many lenders are unable to determine whether they should extend credit or how they should deal with debtors who need additional assistance or who are in default."

Prospects for passage of the legislation were considered good, although the bill was probably not in its final form. It was likely to be changed by the House Energy and Commerce Committee or in the House. When LaFalce last year introduced a bill with some of the same objectives, 290 Congressmen joined as cosponsors. His legislation this year attracted 125 cosponsors in only two weeks.

The LaFalce bill follows closely a draft rule issued by EPA in March and submitted to the Office of Management and Budget for preliminary review. LaFalce praised the proposed rule, saying that if his bill

## Marketer Turned Jobber Exec Carries Message to Academia

Jim Gigoux, executive vice president of the California Independent Oil Marketers Assn. (CIOMA), had personal reasons for wanting to find help for jobbers struggling to survive the heavy costs of underground storage tank (UST) regulations. A former marketer himself, he was one of the early casualties of the regulations.

Gigoux had another reason. As an agricultural economist, he was keenly aware of what closed stations meant not only to marketers, but also to farmers and other small businesses in rural and small-town areas.

On a trip east, he discussed these problems with a Washington, D.C., friend who had been a deputy administrator in the Dept. of Agriculture. The friend said Gigoux ought to talk to an agricultural economist at the University of California at Berkeley, Jerome Siebert, who used to be with the Dept. of Agriculture.

Gigoux went to Berkeley and did, and Siebert "then took it upon himself to make this study because of the potential impact on the agricultural sector," Gigoux explains. "We could have done the same study, but it wouldn't carry the credibility."

A central conclusion of the study is that UST regulations fall heaviest on rural areas, where farmers and small businesses depend primarily on independent marketers to take care of their transportation needs.

Gigoux graduated from Oklahoma State University, where he got a master's degree in agricultural economics and production management. After 12 years in Commerce Dept. association work in Oklahoma and Colorado, he became a petroleum marketer in Grand Junction, Colo. This became a grim experience. He explains: "We lost a C-store when the Colorado economy went to pot, but we kept our cardlock operations. Then we sold those, subject to a site evaluation. When we dug the hole, we found a bunch of gasoline that wasn't ours. It was an old Husky station we bought back in 1980, but who looked for leaking gasoline back then?"

Gigoux still has that property there and can't give it away.

With his marketing and association background, Gigoux sought and got the CIOMA position. He explains that philosophically, "Economics dictated that the small Jim Gigoux shouldn't be in business."

### EPA Evaluation of Marketer Assistance Programs

|                                      | Direct<br>Loans | Loan<br>Guarantees | Interest<br>Subsidies | Grants | Tax<br>Incentives |
|--------------------------------------|-----------------|--------------------|-----------------------|--------|-------------------|
| Currently used by state UST programs | X               | X                  | X                     | X      |                   |
| Provides direct access to capital    | X               |                    |                       | X      |                   |
| Administrative difficulty            | High            | Low                | Low                   | Low    | Low               |
| Private-sector involvement           | Low             | High               | High                  | Low    | Low               |
| Startup costs                        | High            | Low                | Low                   | High   | Low               |
| Ability to aid weakest firms         | High            | Low                | Low                   | High   | Low               |

Source: Environmental Protection Agency

were passed today, the EPA rule could be promulgated virtually as originally drafted. He added, however, that "legislation is necessary to give statutory guidance, to address a few items omitted by EPA and to give certainty to EPA's efforts."

EPA's draft rule and HR-1450 are both carefully crafted to prevent parties responsible for contamination from getting off.

They don't want the lender exemption to be a loophole through which violators can escape. This is essential to obtain support of environmental groups.

LaFalce's bill would eliminate costly mandatory inspection or evaluation of a site before lending, but would substitute a favorable inference that such an inspection constitutes grounds for exemption from any liability that might develop.



LaFalce says, "Drawn from EPA draft language for the most part and responding to environmental concerns, this bill provides benefits for everyone—business can find financing [and] environmental groups can gain comfort that lenders have pressures upon them to do a good job in the environmental area."

In the Senate, Jake Garn (R-Utah) introduced a bill (S-651) that aims at insulating banks and banking agencies from the unintended impact of Superfund decisions. The bill was referred to the Senate Banking Committee.

### Bankers like what they see

The American Bankers Assn. supported both bills, and in fact helped in their drafting. Mark Borneko, an ABA spokesman, says, "A clarification of the lender's exemption is absolutely necessary" if banks are going to make loans to oil marketers, "and we believe the bills do that." He adds that both would probably be changed before they are voted upon, however.

Craig Wolfson, vice president of public and governmental affairs for Wells Fargo, says LaFalce's bill would do what ERA's proposed rule doesn't: "prevent outside third parties from suing banks for environmental cleanup costs."

Supporting the LaFalce and Garn bills, Wolfson says Wells Fargo was stressing the following points:

- "The existing threat of liability for hazardous-waste cleanup is a strong disincentive for lending and is significantly reducing credit availability for many businesses. Small businesses are particularly at risk since upfront assessment fees may make smaller loans uneconomical.
- "The legislation would not alter the thrust of Superfund. Rather, it will restore

the exemptions provided under the original law, which has been undermined by judicial interpretation.

- "Liability for environmental damage should be imposed on those who cause it, not on innocent lenders simply protecting their security interests or acting as fiduciaries."

Smith W. Brookhart III, president of Ozark Mountain Bank in Branson, Mo., says he no longer makes loans on gasoline stations—on the advice of counsel and an order of the board of directors. He was not familiar with the details of the LaFalce and Garn bills, but says there was no way the bank would start lending to petroleum facilities again unless the lender is exempt from liabilities. (See sidebar on page 46.)

### Rays of hope

UST regulations still hang heavy over many marketers, although progress is being made to bring more into compliance. One area of progress is in meeting the EPA's financial responsibility requirements.

In a joint study by PMAA, the Society of Independent Gasoline Marketers of America (SIGMA) and the National Assn. of Convenience Stores (NACS), 21% of marketers were found this year to be without any type of financial assurance. Although this is considered still too high, it represents a significant improvement over 1990, when an estimated 41% of marketers were without financial assurance.

Private pollution liability insurance is too expensive for the average marketer, with only 17% reporting carrying such insurance.

The number of state trust funds is increasing, providing marketers with an al-



For some marketers, the battle has already been lost; UST regs have forced them out.

ternative means—perhaps the best—of meeting financial requirements. In the joint study, 70% of respondents said that at least some of their tanks were covered by state funds.

While there are 40 state trust funds, PMAA reported that only 19 have been approved by the EPA: Alaska, Georgia, Idaho, Illinois, Iowa, Louisiana, Michigan, Minnesota, Mississippi, Montana, Nevada, New Hampshire, North Carolina, Ohio, Oklahoma, South Carolina, Texas, Utah and Vermont. Nine states have submitted their trust funds for approval: Arkansas, Colorado, Connecticut, Florida, Kansas, Nebraska, North Dakota, South Dakota and Tennessee.

PMAA has concluded that the spread of trust funds during the EPA's one-year compliance extension has significantly improved the financial assurance coverage of independent oil marketers. PMAA hoped this improvement would influence EPA to grant another extension.

EPA and others have finally come to recognize—and admit—the toll UST regulations may take on marketers, especially medium and small ones. EPA is drafting rules that could help out. Some states are considering ways to help.

Not only marketers, but also lending institutions, are concerned about the unavailability of loans for petroleum facilities. Increasingly, bankers and others want to help get the word around.

Marketers are distributing the new findings to legislators and others in hope favorable action will be taken. Federal legislation has been introduced to solve some of the most serious problems.

There is ample activity just now to suggest that at last the problems of complying with UST regulations are being recognized and that steps are being taken to solve them. Although there is still a ways to go, the heaviest burdens may be behind most marketers. Anyway, marketers have grounds to be more hopeful.



The EPA concedes that the costs of complying with UST regs "pose a significant burden to many small owners and operators."



# Letters to the Editor



## Misinformation

A letter to the editor in your March 1991 issue from Allen C. Davis, Environmental Services Division, Adkisson Insurance Agency, Inc., reeks of sour grapes and misinformation.

Mr. Davis and the insurance industry—if you can call it an industry—do not like state UST cleanup funds, and they will go to any length to badmouth them. State cleanup funds have taken them out of the petroleum liability insurance business for USTs.

I would like to ask Mr. Davis how many insurance companies or programs purported to cover USTs have gone out of business or withdrawn from the market? Most of them.

What Mr. Davis and all UST owner/operators should keep in mind is in those states that have passed UST cleanup fund legislation, the record is abundantly clear that it is established "public policy" to clean up and pay for UST leaks, regardless of the risk involved. When you get down to the pinch and the squeeze, that's money in the bank. Mr. Davis simply does not understand the first thing about state-sponsored UST cleanup funds, and to compare state funds to playing Russian roulette with six bullets indicates the scope of his ignorance.

We in the petroleum marketing business would not have had to go through all these gyrations of setting up state cleanup funds if the insurance industry had responded to our needs. State UST funds are the savior of independent petroleum marketers.

Roger F. Dreyer  
President

Ohio Petroleum Marketers Assn., Inc.

## For The Record

A story in your March issue (p25) claims an API study on premium grade gasoline sales, *Analysis of Factors Influencing the Consumption of Premium Motor Gasoline*, published last July, was given "back-burner treatment" by API. This is an unwarranted and incorrect conclusion.

For the record, API Response Paper No. 449, highlighting key findings of the study, was mailed in mid-August of 1990 to every daily U.S. newspaper and more than 100 trade publications, including *NPN*. Further a news release about the study was sent to a variety of publications, including *NPN*, in late August. This was when copies of the

study, with a July 1990 publication date, were back from the printer in quantities sufficient for mailing in response to any requests a news release might generate.

If any of your readers would like a copy of *Analysis of Factors Influencing the Consumption of Premium Motor Gasoline*, single copies are available at no charge from the American Petroleum Institute, Policy Analysis Dept., 1220 L St. NW, Washington, D.C. 20005. (202) 682-8549.

Leonard G. Bower  
Director, Policy Analysis  
American Petroleum Institute

## Thanks

Thank you very much Mr. Borenkind, for taking time out of your schedule to talk with me about the issue relating to potential environmental liability between a retailer and supplier for a product spill evolving from an

aboveground bulk storage tank wherein the retailer is invoiced for product directly from the readings of the dispensing pumps.

I enjoy reading your articles in *NPN* [Legal Tips for Marketers], and I am very grateful for your kind assistance.

G. Wayne Hardee  
Hardee Hardee & Harper

## OOOOOS

and then oooops some more. After all that hard work in tracking down the service station totals reported in the *NPN* April issue (p26), Murphy's Law intervened. On Page 28, the big table headed "20-Year Overview" delete the (add 000) at the top of the first three columns. These numbers were meant to be expressed in thousands, not millions. On Page 29, in the second color-boxed item headed "More Top 10's, Gallonage etc." add three more ciphers at the top of column 1. These numbers were meant to be expressed in billions, not millions.

Also, Plan Corp., Carol Steam, Ill., specializes in *bullet-resistant*, not *bulletproof* enclosures. *NPN* regrets these errors.



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June 1991

\$7.00

# What's the Fastest-Growing Petroleum Market? Backward Soviet System Shocks Marketers European Marketing: Ahead, Yet Behind

# NPN

*National Petroleum News*



## Marketing Abroad



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# Editor's Viewpoint

## How much do you know about international petroleum marketing?

If you're like me, your knowledge of overseas petroleum marketing is somewhat limited. I had a few notions of how gasoline was dispensed in other countries, but I must admit I was startled by such things as the lack of governmental regulation in some countries, the advancement of high-tech point-of-sale equipment and the average price tag on a rollover car wash.

Our 14-page cover report series examines the Asia/Pacific Rim—highlighted with individual articles on Japan and Korea—Europe, the United Kingdom and the Soviet Union. In addition, there's a delightful two-page photo essay depicting car washes from around the world.

In compiling data for this series, most of our staff traveled overseas and saw first-hand how those gasoline distribution systems work.

This is *NPN's* first major plunge into the international marketing scene, but it certainly won't be our last.

To test your "worldly" knowledge, here's a list of questions about petroleum marketing in countries around the globe. The answers are listed below. However, if you really want to get some good insights into marketing techniques and operations abroad, I'd recommend that you read our feature series that begins on p30.

- 1) Which two countries dispense compressed natural gas at many of their service stations?
- 2) What two European countries require the installation of Stage II equipment?
- 3) What country has used double-walled underground storage tanks for more than 25 years?
- 4) The United Kingdom encases underground storage tanks in concrete. True or false?
- 5) What percentage of its oil supplies does the Asia-Pacific region receive from the Middle East: 50%, 70%, 80% or 90%?
- 6) How many service stations are located in Japan?
- 7) What country charges \$7 per rollover car wash?
- 8) Which countries probably have the most antiquated equipment and continue to use old and outdated methods of distribution?
- 9) Which country, do sources argue, resembles the U.S. in the amount of government scrutiny it receives?
- 10) Since the early '80s, some European equipment manufacturers have been producing cash-accepting terminals for service station dispensers. True or false?

The questions aren't as easy as they seem.

—Peggy Smedley

- |                    |                                            |                   |          |        |           |
|--------------------|--------------------------------------------|-------------------|----------|--------|-----------|
| 1) Italy and Spain | 2) Sweden and Switzerland                  | 3) Germany        | 4) True  | 5) 70% | 6) 55,000 |
| 7) Korea           | 8) Soviet Union, Poland and Czechoslovakia | 9) United Kingdom | 10) True |        |           |

NPN—National Petroleum News (ISSN 0149-5267) is published monthly (except semi-monthly in June) by Hunter Publishing Limited Partnership, 950 Lee Street, Des Plaines, Illinois 60016. (708) 296-0770.

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Second class postage paid at Des Plaines, Illinois and additional mailing offices.

Subscriptions are solicited only from executive, management and supervisory personnel at the supplier and wholesale level of oil marketing, engaged in the distribution, merchandising, transportation and storage of petroleum, TBA products, and convenience store items. Position, company and segment of industry must be indicated on subscription orders.

Basic subscription rates for one year to individuals in the petroleum marketing industry are: U.S. \$60; Canada \$69 (U.S. \$); Foreign surface mail \$75 (U.S. \$); Foreign airmail \$110 (U.S. \$). Non-industry personnel rates for one year are: U.S. \$75; Canada \$84 (U.S. \$); Foreign surface mail \$90 (U.S. \$); Foreign airmail \$134 (U.S. \$); Single copy price: U.S. & Canada \$9.00 (includes first class postage). Foreign \$11.00 (includes airmail postage). Mid-June Factbook: U.S. \$50; Canada \$60; Foreign \$70. The publisher reserves the right to accept or reject any subscription. (R) Title registered in U.S. patent office. Change of address: Notices should be sent promptly; provide old mailing label as well as new address; include ZIP or postal code. Allow 6-8 weeks for change. Send address changes, correspondence regarding subscription service or subscription orders to: Circulation Department, NATIONAL PETROLEUM NEWS, 950 Lee Street, Des Plaines, Illinois 60016. Or call (708) 296-0770, 9 a.m. to 4 p.m.

Postmaster: Send address changes to NPN—NATIONAL PETROLEUM NEWS, 950 Lee Street, Des Plaines, Illinois 60016.

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NPN's international tour begins in the Asia-Pacific region. Japanese marketers are facing deregulation and increased competition, and Korean oil companies are becoming increasingly competitive internationally.

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The tour also stops in the Soviet Union, Europe and the U.K. The changes in the Soviet Union reveal how backward the petroleum industry is there. The European Community will unify the continent economically in 1992, making it virtually a new market.

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A photo essay of foreign car wash facilities is NPN's postcard from this international tour.

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# ● TOP OF THE NEWS

## Exxon, Mobil, Amoco, Conoco and Hess All Report Whopping Earnings

The first-quarter earnings reports were almost unbelievable. Five of the top six companies, plus Conoco and Amerada Hess, all reported earnings increases ranging from 26.5%-90.7%. Just about everybody else on the list went the other way, declining as much as 68.3%. Shell, the nation's No. 1 gasoline vendor, slumped 38.4%.

For the big international companies, most of the earnings increases came from the refining and marketing segments.

For Exxon, it was something special. The \$2.4-billion it netted in the first quarter was the greatest in its history dating back to the days when John D. Rockefeller organized the company in 1882. It was almost sad, too. The

earnings report came within hours of a federal judge's rejection of Exxon's planned \$1.1-billion settlement of its Alaskan Valdez problems, something it could almost have paid out of its side pocket. Here's the usual bird's-eye box score on the first quarter (see chart).

There are a lot of "ifs" in the federal government's forecast on gasoline supplies and prices for the coming summer months.

Energy Information Administration (EIA) notes there were some uncertainties in mid-May, but there are even more in the future.

If certain things come to pass, either singly or collectively, EIA says, "temporary price increases above projected levels and localized shortages could occur during the summer driving season."

"Things" cited by the federal energy experts were possible failure of gasoline stocks to achieve "more normal levels" by summer, a weakness in imports in that significant supplies do not materialize, unexpected refinery shutdowns and a more robust demand than anticipated.

Otherwise, EIA said, the summer outlook is okay.

"The capability to meet demand through refinery production and imports exists," the government agency said, adding:

"Currently the refining operating capacity utilization rates are around 87%. This rate of utilization is below the average rate for this time of the year (mid-May) and means that refiners have flexibility to produce more gasoline. Imports, at the same time, have begun to return to more normal levels.

"Stocks which are currently (mid-May) low by historical standards are expected to rise and be at the normal level by the end of summer.

"Gasoline prices this summer are projected to be about 5¢/gal. higher than last year, but that difference is due to the increase in the federal excise tax as well as state and local tax increases."

The forecasters say gasoline demand should average about 7.39-million b/d, about 1.4% less than last year. Domestic refinery production is expected to average 7.13-million b/d vis a vis last summer's 7.06-million b/d. Net imports of gasoline are expected to average 292,000 b/d, down considerably from the record level of 432,000 b/d in 1990.

EIA says the projected gasoline price for the summer months, i.e., the retail level for all grades and services, is calculated at \$1.21/gal., up 5¢/gal. over last year. This is more a reflection of higher taxes than physical fuel costs, EIA says.

In another matter dealing with gasoline prices, the American Petroleum Institute (API) reported that a new economic analysis of last summer's wholesale prices says there is no evidence to support claims of predatory pricing or "price gouging" by refiners.

The study, made for API by professor Philip E. Sorenson of the Dept. of Economics at Florida State University, took another long, hard look at the wholesale market in August and September in the wake of the Iraqi invasion of Kuwait and a modest splurge of higher prices.

### Corporate Earnings, First-Quarter 1991

(millions of dollars)

|                    | 1st Qtr.<br>1991 | 1st Qtr.<br>1990 | %<br>Chng. |
|--------------------|------------------|------------------|------------|
| Exxon              | \$2,240.0        | \$1,280.0        | 75.0%      |
| Mobil              | 710.0            | 400.0            | 77.5       |
| Chevron            | 557.0            | 473.0            | 17.8       |
| Amoco              | 803.0            | 466.0            | 72.3       |
| Shell              | 125.0            | 203.0            | (38.4)     |
| Texaco             | 415.0            | 328.0            | 26.5       |
| Arco               | 351.0            | 592.0            | (40.7)     |
| BP America         | NA               | NA               | --         |
| Phillips           | 160.0            | 259.0            | (38.2)     |
| Conoco             | 322.0            | 197.0            | 63.5       |
| Marathon           | 71.0             | 82.0             | (13.4)     |
| Unocal             | 75.0             | 77.0             | (2.6)      |
| Coastal            | 54.3             | 75.6             | (28.1)     |
| Amerada Hess       | 75.7             | 39.7             | 90.7       |
| Sun                | 41.0             | 71.0             | (42.3)     |
| Pennzoil           | 22.0             | 32.7             | (32.7)     |
| Ashland *          | 26.6             | 0.9              | --         |
| Kerr-McGee         | 29.7             | 27.1             | 9.6        |
| American Petrofina | 8.3              | 26.2             | (68.3)     |
| Citgo              | NA               | NA               | --         |
| Murphy             | 25.6             | 22.0             | 16.4       |
| Total Petroleum    | (10.7)           | (12.3)           | ---        |
| Dia. Shamrock      | 4.3              | 4.3              | 0.0        |

\* Second quarter, fiscal ends 9/30.

### Downstream: Everything's Sailing High

(millions of dollars)

|                   |           |         |        |
|-------------------|-----------|---------|--------|
| Exxon (total)     | \$1,353.0 | \$191.0 | 608.0% |
| Domestic          | 256.0     | (28)    | --     |
| Foreign           | 1,097.0   | 219.0   | 401.0  |
| Mobil (total)     | 442.0     | 92.0    | 380.0  |
| Domestic          | 100.0     | 39.0    | 156.0  |
| Foreign           | 342.0     | 53.0    | 545.0  |
| Chevron (total)   | 192.0     | 156.0   | 23.0   |
| Domestic          | 99.0      | 59.0    | 68.0   |
| Foreign           | 93.0      | 97.0    | (4.0)  |
| Amoco (worldwide) | 214.0     | 129.0   | 66.0   |
| Shell             | 4.0       | (21)    | --     |
| Texaco (total)    | 271.0     | 166.0   | 63.0   |
| Domestic          | 60.0      | 30.0    | 100.0  |
| Foreign           | 211.0     | 136.0   | 55.0   |
| Arco              | 74.0      | 72.0    | 3.0    |
| Conoco            | NA        | NA      | --     |
| Marathon          | 102.0     | 77.0    | 32.0   |
| Sun               | 38.0      | 25.0    | 52.0   |

## ● TRENDS

### Divorcement Pressures Growing Once Again

Divorcement is well on the way to becoming one of the meanest supplier-marketer problems of the '90s.

There's no easy way out. The language on both sides is becoming tougher and so are the street tactics.

Connecticut, Delaware, Maryland, Virginia and the District of Columbia already have divorcement laws. Ten other states have or are debating such proposals now. It's probable that several more will join the legislative controversies before the year is out. Tension can't help but increase. There's no question that marketer opposition to the pricing tactics of the big suppliers will be near-bursting by 1995. And so will supplier resentment and resistance.

The turmoil may force Petroleum Marketers Assn. of America (PMAA) to reconsider its position on divorcement. Last fall, the PMAA board voted 44-to-7 to support divorcement and price control legislation in Congress. It softened its stand in January when price changes rebounded to the jobbers' favor. Now the swing back in the other direction may force PMAA to talk about it if not do something at the spring meeting. It may surprise some of the modern-day marketers that divorcement is not necessarily "their problem and their problem alone," a latter-day phenomenon so to speak. Divorcement, as an issue, has been around since the early '30s. It has been hot and cold since then, depending on the market pressures and the articulateness as well as the shrillness of the trade association executives defending their interests.

Texas Oil Marketers Assn. recently declared what it called all-out war against the suppliers and their pricing tactics. Its membership, at a meeting in San Antonio, voted unanimously to get the state Attorney General, the Federal Trade Commission and the U.S. Dept. of Justice to investigate and perhaps sue the refiners for restraint of trade. They concede that it's a bit too late this year to get a bill into or through the legislature. But they expect to

have one ready by 1992. Meantime, their thrust right now is on the national level.

Another Southwestern divorcement proponent literally new to the fight is the giant Circle K chain, with several thousand gasoline outlets. One top executive says, "Something has to be done....You just can't get raped and pilaged at the discretion of the majors." He contends that the chain was being forced to brand its gasoline with a major logo to stay alive and competitive.

These are only a few of the many happenings that are arousing the marketers to fever pitch.

In April, Senators Dennis DeConcini (D-Ariz.) and Strom Thurmond (R-S.C.) co-introduced a divorcement bill that may attract some attention and perhaps put the PMAA under pressure again. PMAA has been encouraging its members to seek relief in the state legislatures, not the national arena.

At any rate, the DeConcini-Thurmond proposal would allow dealers to buy 30% of their product from sources other than the supplier who owns their outlet. It also would give dealers the right to sell unbranded fuel through the suppliers' dispensers provided the pumps were clearly labelled unbranded.

So far this year, 10 states have considered or are still working on divorcement bills. Here's the rundown:

- Georgia—divorcement scuttled for the time being.
- Hawaii—a bill passed by the House was converted into a study of the impact of divorcement on the state.
- Iowa—the debated bill is now being revised.
- Massachusetts—a bill is being considered.
- Missouri—a bill is being considered.
- New Mexico—the divorcement bill has been killed.
- New York—a bill is being considered.
- Oregon—the current bill is still alive.
- Utah—the proposal has been withdrawn.
- Virginia—the new proposal has been killed.

The fresh pressures stemmed, in no small measure, from a new national survey which showed that PMAA's marketer member income plunged nearly 77% during the Iraqi invasion.

—J. Richard Shaner

## ● MARKETPLACE AT A GLANCE

### AVERAGE GASOLINE PRICES IN THE U.S. (per gal.)

|                | Gasoline<br>(All types) | Leaded<br>Regular | Unleaded<br>Regular | Unleaded<br>Premium |
|----------------|-------------------------|-------------------|---------------------|---------------------|
| <b>MARCH</b>   |                         |                   |                     |                     |
| U.S. City Avg. | \$1.138                 | \$1.047           | \$1.082             | \$1.246             |
| <b>Regions</b> |                         |                   |                     |                     |
| Northeast      | 1.211                   | 1.299             | 1.136               | 1.335               |
| North Central  | 1.128                   | 1.099             | 1.088               | 1.256               |
| South          | 1.132                   | 1.113             | 1.062               | 1.242               |
| West           | 1.088                   | 1.019             | 1.049               | 1.228               |

Source: U.S. Dept. of Labor, Bureau of Labor Statistics.

### STOCKS (Add 000 bbl.)

|                      | 5/3/91  | 5/4/90  |
|----------------------|---------|---------|
| Gasoline (Total)     | 204,300 | 219,223 |
| Gasoline (Unleaded)* | 158,888 | 168,070 |
| Jet Kerosine         | 37,541  | 41,094  |
| Distillates          | 101,296 | 96,909  |
| Residual             | 43,870  | 43,436  |

\*Included in gasoline total.

Source: American Petroleum Institute.



From filling stations straight out of the 1930s to state-of-the-art technology, from London to Moscow to Seoul, the global petroleum market is a



fascinating scene. NPN takes a look at petroleum marketing and distribution in key countries and regions around the world.

# Asia-Pacific: Fastest-Growing Petroleum Market in the World

For the remainder of this century and well into the next, the Asia-Pacific region will be the fastest-growing petroleum market in the world, participating in an economic boom that few would have anticipated even a few years ago.

The United States was founded and grew up in the eastern part of North America, dominated by the Atlantic Ocean, gateway to Europe. It has been Atlantic-oriented for centuries. Just in the past few years, however, eyes are swinging to the Far East. The 1980s opened up what has been called the "Pacific Century."

Japan's rising economic power is well known. China's throwing open its communist doors to capitalist development came as a big surprise. Hong Kong, Taiwan and South Korea are making great strides. The region is alive with enterprise and growth, fueled substantially by petroleum.

The East-West Center in Honolulu, a world leader in petroleum industry research and analysis, calls the Asia-Pacific region "the emerging center of gravity for the world economy." Even now, the region accounts for 20% of the world's total economic activity, according to the Bank of America.

Robert G. Reed III, chairman, president and CEO of Pacific Resources Inc. (PRI), a Honolulu refiner/marketer active in the region, says, "I believe the Asia-Pacific region will be the engine of growth, powering the world petroleum industry."

From India to California, from Alaska to New Zealand, and all points between, many petroleum companies—some private, some government—are competing energetically to see who will enjoy the largess of this phenomenon.

## Dependence on Mideast oil

Hanging over Asia-Pacific is its heavy dependence on Mideast oil. Although the region has substantial crude oil of its own, two-thirds of its petroleum requirements are and will continue to be obtained from the outside.

By Mark Emond  
Staff Reporter

The region's crude production will begin to decrease soon. There are four countries that now export more than they import (net exporter): Indonesia, China, Malaysia and Brunei. All but Brunei will become net importers during the decade.

PRI's Reed explains, "By the turn of the century, Indonesian crude production capacity is seen to decline, and almost all production will be required domestically. Recent increases in Malaysian production will support moderate exports in the 1990s. China may become a net importer by 1995. Although China may produce more oil in the coming decade, its in-



creased internal demand will necessitate increased imports. Only Brunei is seen to continue large volumes of exports into the 21st century."

The East-West Center adds a note on Brunei: "Brunei is the one constant factor in the Asian oil scene. Brunei could easily continue its current rate of production essentially unchanged until late in the 21st century."

The Asia-Pacific region obtained 71% of its petroleum requirements from the Mideast in 1990 and is expected to obtain 90% in 2000. In physical terms, imports from the Mideast are likely to increase about 1.7-million b/d from 1990-'95 and by another 2.4-million b/d between 1995 and 2000. Thus the region's energy sector bears much of the potential instability of the Persian Gulf.

Although other petroleum suppliers to the region will have a decreasing share of the pie, the quantities are large and much worth the effort. The future appears to be bright for United States and other oil com-

panies in a position to develop markets in the region.

## Growth of gasoline demand

If economic growth is the engine of the Asia-Pacific region, petroleum is its fuel. The one thrives on the other.

Fereidun Fesharaki and Nancy Yamaguchi of the East-West Center, in a new study on *The Energy Supply and Demand Outlook in the Asia-Pacific Region*, say one of the big surprises of the '80s was the revival of the gasoline market in Asia.

Beginning in 1987, gasoline demand leaped ahead throughout the region. Korea experienced extraordinary 31% growth in 1988. Consumption by large consumers such as Australia also grew, and historically low gasoline consumption in countries such as Japan gave way to rapid growth.

Gasoline demand in the region is expected to grow at a rate of 3.9% annually through 1995, and 3% annually for the remainder of the century. From 2.6-million b/d in 1987, demand for gasoline (including naphtha) is expected to reach 4.0-million b/d by 1995 and nearly 4.6-million b/d by 2000.

## Enter lead reduction

While gasoline demand is rising strongly, Asian refiners are moving ahead in the elimination of lead, which creates certain problems fateful to the region's future and to the success of outside gasoline refiners and marketers.

Tetraethyl lead reduction has not brought about a shortage of octanes, as might have been expected. The reason is that refinery technology in the region has tended to favor catalytic cracking, which produces high-octane gasoline.

The East-West Center says, "The rapid phaseout of lead at a time of soaring demand might seem to place impossible pressures on the Asian octane pool. Surprisingly, however, the current levels of upgrading firmly planned, plus facilities already in place, can easily cope with the octane problem."

The problem for Asian refiners is not octanes, but rather total available light and middle distillates, including naphtha, gasoline, kerosene and diesel fuel.

The Asia-Pacific region as a whole will eventually import more light products than it exports (net importer), and much of it is certain to come from the Mideast. This involves a risk for regional refiners, which will be explained later.

Light distillates accounted for 69% of all petroleum products refined in the Asia-Pacific in 1990, but to meet growing and changing demand, new refining capacity (incremental barrels) added between now and 1995 will have to yield 84% light products—a big challenge in the upgrading that will be taking place.

Refinery yields in 1990 were 8% naphtha, 18% gasoline, 13% kerosene, 40% diesel, 9% fuel oil and 8% other. The new refining capacity by 1995 will have to produce yields of 12% naphtha, 20% gasoline, 12% kerosene, 40% diesel, 9% fuel oil and 8% other, according to the East-West Center.

The two biggest gasoline consumers in Asia, Japan and China, are virtually lead free. (In China's case, the reason is not environmental.) Japan accounts for nearly 90% of all the unleaded gasoline demand in the region. Except for Japan and China, however, unleaded gasoline consumption does not exceed 25% in any other country.

The average Research octane number of unleaded gasoline, representing 51.5% of all gasoline sales in the region, was 92.5 in 1987 and is expected to remain the same in 1995. However, unleaded is projected to represent 84.4% of total sales at that time. Gasoline of 91-93 Research octane numbers amounts to approximately 45.2% of all gasoline sold.

The average Research octane number of leaded gasoline, representing 48.5% of the market, was 92.6 in 1987 and is expected to drop to 89.5 in 1995, when it will amount to only 15.6% of the market. Gasoline of the high end 97-98 Research octane numbers amounts to 20.1% of all gasoline.

## Outlook for Asia-Pacific Supply-Demand Balance, 1980-2000

|                       | 1980   | 1985   | 1990   | 1995   | 2000   |
|-----------------------|--------|--------|--------|--------|--------|
| Regional demand       | 10,735 | 10,140 | 11,508 | 13,405 | 14,442 |
| Regional production   | 4,885  | 5,790  | 5,910  | 5,880  | 5,480  |
| Net oil required      | 5,850  | 4,350  | 5,598  | 7,525  | 8,962  |
| Imports within region | 1,255  | 1,874  | 1,797  | 1,213  | 450    |
| Imports from Mideast  | 5,525  | 4,170  | 5,248  | 7,125  | 8,462  |
| Imports from outside  | 325    | 180    | 350    | 400    | 500    |
| Total imports         | 7,105  | 6,224  | 7,395  | 8,738  | 9,412  |
| Dependence on Mideast | 78%    | 67%    | 71%    | 82%    | 90%    |

Source: East-West Center

Because the region's refineries can produce octanes in excess of demand, some Asian countries, such as Thailand, Indonesia, and possibly even Japan, hope to export gasoline in the 1990s. But the Asia-Pacific region as a whole will be importing greater amounts of gasoline in future years.

### Gasoline export troubles

Exportation of Asia-Pacific gasoline to the United States is limited in part because of the higher-quality products required to meet environmental regulations. U.S. gasoline has little or no lead, lower volatility (Reid vapor pressure, or RVP), less olefins, lower aromatics, more oxygenates. Gasoline imported into the United States from Asia requires further blending.

Environmental interest in Asia is concentrated on lead content, although aromatic and oxygenate controls are under study in Japan. Further controls are likely, but not expected to become widespread in this century.

If many Asian countries realize their ambitions to become major gasoline exporters, where will it all go? The West Coast of the United States seems the logical importer, but reformulated gasolines

and tightening emission controls may be too big a hurdle.

West Coast gasoline demand is growing. The percentage growth isn't large by Asia-Pacific standards, but the volumes are. At the same time, crude oil production is declining overall, and environmental opposition seems to rule out development of offshore fields beyond what they already are, at least for the foreseeable future.

Refineries are under increasing pressures from their neighbors, and even where they are tolerated reasonably well, the cost of operating them continues to rise. It's unlikely any more major refineries will be built on the West Coast, or for that matter anywhere in the United States.

Some West Coast refiners are therefore considering meeting their gasoline requirements with imports, or locating new refineries overseas where regulations are not so onerous.

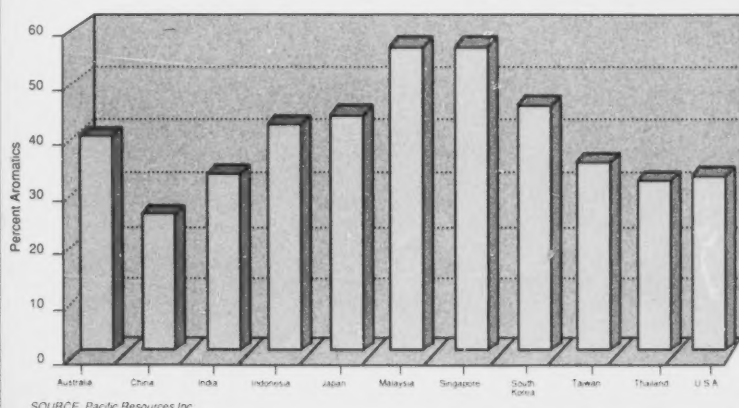
### The problem of aromatics

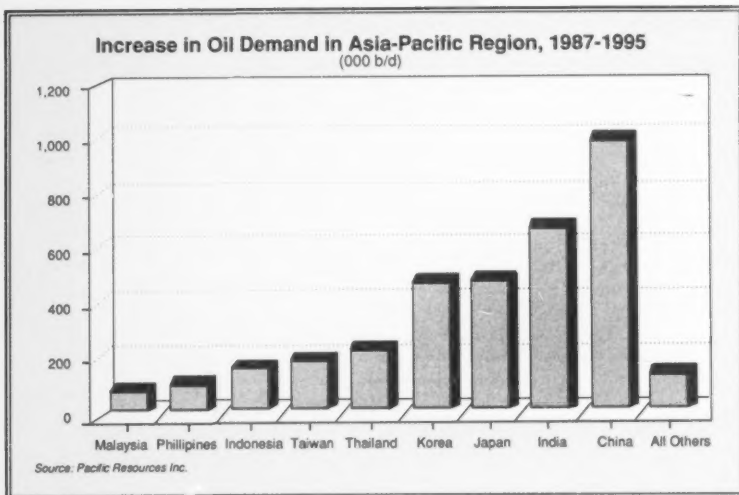
"Although the West Coast market for gasoline may be attractive," say Fesharaki and Yamaguchi, "it is not clear that most Asian refineries will be able to meet new U.S. West Coast specifications. Until recently, the RVP restrictions and the requirement that the gasoline be unleaded were perceived as the major hurdles; now, proposed limitations on aromatics content of gasoline could add even more significant barriers to Asian exporters."

Relying heavily on catalytic cracking and reforming for the making of high-octane gasolines, Asian refiners produce proportionately more aromatics. Indeed, the East-West Center points out, "catalytic reforming exists primarily to convert nonaromatics to aromatics. Because of this high reliance on these two technologies, Asian gasoline blendstocks tend to be higher in aromatics than the U.S. average."

The 25% limit on aromatics being talked about now in some areas of the United States, particularly in California,

Estimated Gasoline Aromatics Content vs. Proposed U.S. 25% Standard





cannot be met by any Asian country. With a national average of 32% aromatics, U.S. refiners cannot meet the lower standard either, except in the cases of individual refineries as upgrades are made.

But China comes closest with about 27%. Thailand's aromatics content is about the same as that in the United States, but others range significantly higher. Malaysia and Singapore gasolines have about 57% aromatics, South Korea 46%, Japan 45%, Indonesia 42%, Australia 40%, Taiwan 36% and India 33%.

Both Thailand and India, which come closest to meeting some probable U.S. requirements, have plans for refinery upgrading to produce more high-octane unleaded gasoline by catalytic means, which increase the output of aromatics. It could be that refiners that hope to penetrate U.S. markets will have to delay or slow the transition to unleaded gasoline in their own countries.

China, India, Indonesia, Thailand and South Korea are increasing their refining capacities.

After costly refinery upgrading takes place, the countries that are most likely to become gasoline exporters to the western United States and elsewhere might be said to rank approximately in decreasing order of the aromatics content of their gasolines.

#### Wanted: refining capacity

Oil demand in the Asia-Pacific is expected to expand from its base of 11-million b/d in 1987, the first year of renewed economic growth, to an estimated 13.1-million b/d in 1990, 15.6-million in 1995, and 17.7-million in 2000, the East-West Center forecasts.

Additions of 2-million b/d of refining capacity are firmly planned, and another 1-million b/d is under serious study, Fesharaki and Yamaguchi report.

This increasing and upgrading of refin-

ing capacity will have a greater impact on the region than might be expected because many of the new processing units will be located where the new products can be exported. Much of the region's higher-technology cracking is underutilized for governmental, economic and logistical reasons not related to gasoline demand.

"The presence of international oil companies as partners in many of the new ventures will help ensure better utilization," the East-West Center study says.

"Thus the new units may have a larger effect on the market than would be suspected from past experience, and there is also a possibility that the new tightness in the refining market will encourage fuller utilization of existing facilities.

"Together, the new units plus fuller utilization of existing facilities can go a long way toward meeting the incremental demand barrel [increased demand]."

Middle distillate demand increases will continue to put pressure on Asia-Pacific refiners. The catalytic cracking projects many intend to use will not increase the yield of distillates. Some refiners may find themselves lowering gasoline output to meet middle distillate production.

Because of growing opposition to sulfur in petroleum products in the Asia-Pacific regions, refiners will have a difficult time refining the high-sulfur crude coming in increasing quantities from the Mideast. Where sulfur restrictions are strict, imports may be the only solution for a time.

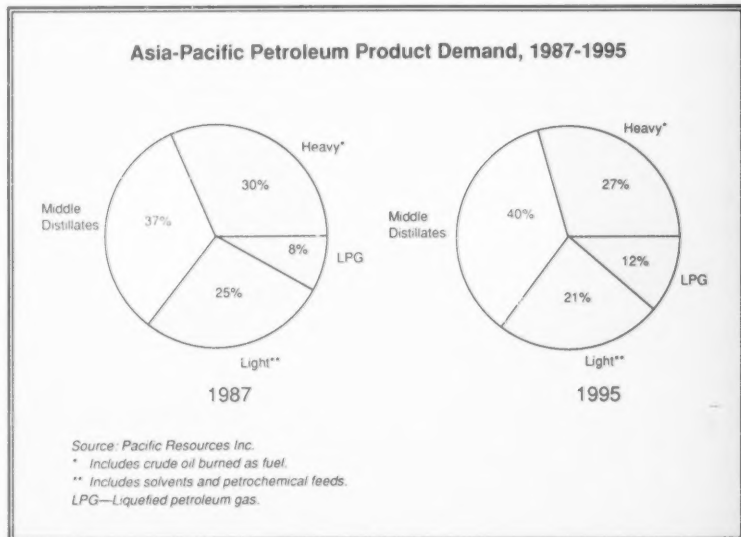
#### Of prices and crisis

Future petroleum prices will strongly dominate the course of events in Asia-Pacific oil markets, and they can only be dimly surmised. Practically all forecasts are based on conventional, middle-of-the-road expectations, which can be upset by an almost infinite variety of happenings.

For example, significantly lower Mideast crude oil prices could increase the region's dependence on that source and drive out other crudes, regional refinery-overbuilding could lower prices and force out competing products from overseas and expansion of Mideast refining capacity could weaken prices and damage Asia-Pacific refiners.

But within the limits of reasonable expectation, not of unforeseen events, the Asia-Pacific region is considered likely to develop along plausible economic lines and paths of least resistance. This will provide opportunities for all who understand it.

The East-West Center anticipates "a relatively tight market" in the '90s. Says the regional study, "We consider it unlikely that 3.1-million b/d of new capacity will be built between 1990 and 1995; we also



believe that product availability from the Mideast is unlikely to expand in the near term, and may contract significantly.

"In any case, if the existing product demand forecasts are correct, slight overbuilding would quickly be absorbed by demand growth in the second half of the decade."

But Fesharaki and Yamaguchi do see risks for Asia-Pacific refiners and others laying plans for marketing in the region. "The first possibility is that a new wave of export refineries will be constructed in the Mideast," the analysts say. "Although various expansions are under study, only modest expansions now seem likely between now and 1995; late in the decade, it may be a different story."

There is always the possibility of a Mideast disruption. If Mideast producers aggressively boost production while the

production crippled in the gulf war comes back onstream, the stage will be set for another price shock that may or may not come.

The East-West Center reports Saudi Arabia and Venezuela, both of which boosted crude production during the Iraqi occupation of Kuwait, are presently considering further substantial increases. Fesharaki says that with excess production in their hands, they could possibly control the world market, but he suggests that "current decision-makers may have been replaced by a new generation," which could avoid a replay of past mistakes.

The center sees refining policies in the Mideast as pivotal later in the decade. "If Asian nationals continue to build to meet their own demand, and the Mideast countries also launch a major refining expansion for completion in the late '90s—

and then a price shock occurs as well—the effective capacity overhang could be very large." This surplus could cause prices to crash.

PRI's Reed believes the Asia-Pacific's increase in demand for OPEC oil will be "critical in the determination of future prices." In particular, he sees the increased possibility of price volatility. "The greater the dependence on OPEC, the greater the possibility of political events having a magnifying impact on price movements," he explains.

"With future demand for OPEC oil rising so sharply, any shutdown of production through wartime activities would have a major impact on prices."

But Reed adds that demand growth in the Asia-Pacific region itself will "serve as a foundation upon which strong prices may be sustained."

## Japanese Gasoline in '91: Deregulation a Problem?



Now that deregulation is a *fait accompli* in Japan, it would appear that many of its retailers—perhaps seven out of 10—are in big trouble. Veteran Japan watchers are essentially unconcerned, however. There's nothing calamitous on the horizon, the way they see things now. Tougher volume competition, increasing price and supply pressures, survival nightmares, etc., are all handwringing issues with which American gasoline marketers have long been familiar. That's it, in a nutshell.

Japan's petroleum industry is in the *fait accompli* stage of deregulation—a process that began about four years ago. Officially, deregulation ended in March of last year, but change is slow in coming onstream. There's no question that deregulation has reshaped the industry's operational procedures in many ways, but all in all, the changes have not impacted heavily on the street scene over the past year and there's not much likelihood that they will throughout the rest of the '90s, analysts say.

Consider the overall picture, for instance.

Japan has about 55,000 service stations, the majority of them clustered in and around metropolitan areas such as Tokyo, Yokohama and Osaka, for example, where real estate costs are fantastic and physical

facilities are squeezed into the smallest spaces possible. This does not augur very well for expansion or in-house maneuverability.

About half of these stations average less than 20,000 gal./mo. (By way of comparison, there are approximately 210,000 retail gasoline outlets in the U.S., with an average of around 50,000-60,000 gal./mo. Retail pump prices in the U.S. are in the \$1.10-\$1.15/gal. area while those in Japan are in the \$3.50-\$4.00/gal. range. Taxes are the principal reason for the difference.)

Recent studies have indicated that Japanese gasoline marketers must average at least 26,500 gal./mo. to stay out of

Calif., says that almost 40% of the service stations were operating in the red in recent years.

These numbers, while distinctly ominous, are not necessarily so. In Japan, distributors have more to say about retail prices than do the retailers themselves or the suppliers. Thus, at year's end, there are many retroactive price and profit adjustments to be made so that retailers, while technically unprofitable, are subsidized in such a way that they can stay in business.

Call it Nipponese economics or what—the procedure is hard to explain—but the end results are the same: Theoretically, the stations operate in the red, but their ability to stay alive and profitable is subsidized by their distributors at the end of the year.

Larry Emond, president of Japan Management Assn. Research Institute, Inc., a Japan-watcher for some time, gave *NPN* this commentary to help understand what's going on in the marketplaces there:

"The first step in the deregulation of the Japanese service station industry was a change in the fire regulations that took place in May 1987. This change made it possible to sell nonpetroleum products and services next to petroleum products and services. The nonpetroleum possibilities can include anything: C-stores, fast-food stores, video rental products and services and so on. The change made it possible for stations to be attached to other buildings, such as being the first story of a taller building. Previously, gasoline stations had to stand alone.

trouble and in a profitable position. With at least half of the vendors running below that figure, it is obvious that a question of survival is a very serious issue for many of them now.

Another study by Japan Management Assn. Research Institute, San Diego,



**By J. Richard Shaner**  
Executive Editor



"Deregulation was completed at the end of March 1989. The final changes were the removal of limitations on the number of service stations that could be built. The government had mandated a maximum of 59,000 stations in the country. No new ones could be built unless they were one-on-one replacements. Another deregulation factor was the elimination of the requirement that retail stations had to function as exclusive distributors of their suppliers.

"Japanese business analysts have been reporting that the most significant effects are that many in the industry will be squeezed out and that the days for a large number of stations operating in the red are over. The analysts agree that the gas stations that do not pump more than 26,500 gal./mo. are doomed.

"Many Japanese stations appear to be scrambling to prepare themselves for increased competition. Idemitsu Kosan, which recently opened a United States subsidiary, Apollo America, to supply products to Japanese automakers in the United States, is currently building a convenience store/self-serve gasoline station in Portugal which it will operate as a test station, much like American oil companies use company-ops for market evaluations. An interesting commentary: The company chose to build the field-test unit in some other country because it would have been far too expensive to do it in Tokyo."

One thing to bear in mind about Japan is that while deregulation now makes it possible for gasoline stations to be side-by-side with convenience stores, it does not necessarily presage a door-opener for self-service gasoline marketing, which is absolutely taboo at the retail level. (In the United States, for example, approximately 60,000 of the nation's convenience store population of 80,000 not only sell gasoline, but strictly on a self-serve basis with the customer being forced to go inside the convenience store to pay his bill. Oil companies and independent dis-

tributors generally follow about the same procedure.

"Japanese C-stores, of which there are thousands in the country, are strictly small grocery stores. Customers have serve-yourself access to shelves and products, but they must go through a cashier and a register to pay for their items. If the customers want gasoline, they have to go to the gasoline facility which may or may not be next door or part of the overall complex."

Arco's recent deal with Japan's Kyodo Oil Co. of Tokyo, is being watched closely both by the Japanese and other investors with similar notions in mind [NPN—April '91, p21].

It will be very difficult to persuade or to force Japanese motorists to use self-service operations in the gasoline business. The last thing in the world that they want to do is abandon the long list of goodies that are now theirs.

For example, Japanese service stations and the flock of attendants they have on hand use driveway hawkers to cajole customers to come in. There the windows are washed, tires and gauges inspected, fluid levels are checked and so on, all with bright smiles and chatter from the attractive and smartly dressed service attendants.

The same holds true in the service bays where maintenance items and repair needs are taken care of swiftly. The customer is king at the Japanese service stations and is made to feel so. There also are free car



Japanese gasoline customers are conditioned to getting attentive, courteous service from uniformed attendants at the islands. This tradition could help derail attempts to introduce self-service in that country.

washes and other items available for the asking.

In getting into the Japanese C-store and gasoline marketplaces, Arco thus joins Esso and Mobil as American companies that have been there for a long time. Shell also is there but that's a Royal Dutch affair rather than the American company which operates in the U.S.

Nippon Oil is Japan's biggest gasoline marketer, in both sales volumes and service stations. It has 10,000 stations and retails roughly 2-billion gal./yr. of gasoline. Idemitsu, Shell, Cosmo and Kyodo are the next four biggest vendors and station-owners. Mobil sells more gasoline than Esso, but Esso has more stations.

Japan has a little less than 60-million motor vehicles to take care of, roughly a three-to-two basis between passenger cars and trucks, buses, etc. The U.S., by way of comparison, has about three times as many vehicles, of which 145-million are private passenger cars vis a vis trucks and heavier vehicles.

#### JAPAN RANKS NO. 2 IN STATIONS AND VOLUMES

|                                               | Japan  | U.S.      | U.K.      | France    | W. Ger. |
|-----------------------------------------------|--------|-----------|-----------|-----------|---------|
| No. of Stations                               | 55,254 | 115,870   | 22,184    | 31,500    | 19,500  |
| Annual Volume (billion gal.)                  | 10.1   | 113.5     | 7.9       | 6.6       | 8.2     |
| Monthly Volume per Station (thousand gal.)    | 15.3   | 81.6      | 29.6      | 17.4      | 10.1    |
| Monthly Volume Distribution (thousand gal.)   | 0-13.2 | 13.3-19.8 | 19.8-26.4 | 26.5-39.6 | 39.6+   |
| Percent of Total (%)                          | 45.6   | 25.6      | 15.1      | 10.3      | 3.2     |
| <b>Japanese Stations Operating in the Red</b> |        |           |           |           |         |
| Year                                          | 1988   | 1987      | 1986      | 1985      | 1984    |
| Percent (%)                                   | 39.5   | 41.8      | 36.1      | 48.3      | 48.8    |

Source: Japan Management Assn. Research Institute, USA, San Diego, Calif., Larry Emond, president.

# Korea: Yesterday and Today



Fueled by soaring demand at home and new opportunities beyond its borders, the Korean petroleum industry is shifting into high gear to meet the new challenges of the 1990s and beyond. Driven by the changing needs of a booming economy and energy demand that is expected to double in the next 10 years, Korea's relatively youthful industry is making dramatic changes domestically and overseas to capitalize on its new opportunities.

Korean oil companies are maximizing their efforts to expand refining facilities and are actively participating in a variety of product pipeline projects to improve transportation efficiency. Through these efforts, Korea is making tremendous strides to strengthen its international competitiveness.

Industry officials admit to problems and hurdles in meeting their goals. One of those obstacles has been the iron hand of government control on just about every aspect of the country's oil industry, from refining to limits on profitability to a minimum-maximum cap on retail gasoline margins.

The good news is that these regulatory shackles are finally being lifted, if somewhat gradually. Because the government is opening the door to a much freer marketplace, Korean oil companies are hoping this new environment will encourage U.S. oil companies to invest in a variety of marketing joint ventures with them.

As part of the program to deregulate the petroleum industry, the system which links domestic oil prices to foreign exchange rates was introduced in late 1989 (see chart). A "pole sign" system for retail service stations is also expected to be introduced. This would allow service stations to post competitive retail prices at their pumps.

"To meet these changing demands, the Korean oil refining industry needs to strengthen its financial structure, streamline its operations and increase its overseas exposure," says Chang Hong Sun, president of the Korea Petroleum Assn.

Because the government has played such a heavy hand in regulating the petroleum industry, oil companies there traditionally have not made a lot of money.

In contrast to U.S. major refining companies, profits are low. The combined profits of the five major Korean refinery firms between 1980-'88 were only \$167-million, or an average of about \$18.5-million annually.

The government not only places ceiling prices on petroleum products, it also limits the permissible profitability of companies to a maximum of 10% of their net worth. However, this governmental reign will continue to lessen in the months ahead. Policies regarding petroleum refining



facilities, distribution systems and imports and exports are also expected to be modified in an effort to ensure a more competitive market.

For some, a freer market is a mixed blessing. While many "agents" (Korea version of petroleum marketers) are pleased about deregulation, one Korean agent explains that he's worried about his survival. "I'm afraid of a free market. I'm not prepared and I'm not experienced enough," he explains.

Another agent notes that a free market will increase his profitability. "Maybe I'll make a good profit. I've been making less than a 10% profit. It's around 4-5%. After deregulation, I can foresee a profit margin perhaps about 15%."

The Korean oil industry has had to struggle to overcome some major hurdles. Korea is the world's eighth-largest oil-consuming nation, analysts say, but relies totally on foreign sources. The country's resources are very poor and it depends on foreign suppliers for 75% of its energy demand. The petroleum industry also relies entirely on foreign imports for its crude supplies.

However, the country is pushing ahead rapidly to secure more supplies. Currently, Korean firms and the state-run Korea Petroleum Development Corp. (PEDCO) are participating in 20 overseas oil exploration projects in 12 countries to secure more crude. The total investment to date in these projects is about \$517-million.

Moreover, if the Ministry of Energy and Resources has its way, by the year 2000 more than 20% of the nation's oil needs will be supplied by Korean companies in joint ventures with foreign investors.

The country has also been astutely hedging against loss of crude from former primary suppliers. In the 1980s, Korea imported all of its oil from Saudi Arabia, Kuwait and Iran. Now the nation is supplied by 20 different crude oil suppliers.

Imports of crude oil in 1988 reached 261.1-million bbl., up 20.8% from the previous year. Imports of crude oil for domestic consumption amounted to 213.8-million bbl., an increase of 18.5% from 1987.

By region, imports of crude oil from the



Korea is working hard to expand its refining and pipeline capacity. During a tour of Korea last fall, hard-hatted NPN editor in chief Peggy Smedley (left) inspected a refinery with two Korean industry officials.

By Peggy Smedley  
Editor in Chief

Middle East constituted 64.2% of the total imports in 1988. In 1989, the Middle East accounted for more than 65%. Southeast Asian countries accounted for 19.9% of the total in 1988, down 3.8 percentage points from the previous year.

In fact, prospects of oil shortages and higher oil prices had cast an ominous shadow over the Korean economy during the Middle East crisis. Korea had relied on Iran and Kuwait for about 12% of its total crude imports (4.2% of the total coming from Iraq and 7.6% from Kuwait.) Korea was concerned that a regional war would curtail supplies from other Mideast sources. One of its biggest suppliers, United Arab Emirates, just down the Gulf from Kuwait, accounts for 18% of Korea's oil supply; Oman supplies another 23% of the nation's crude (see chart).

The government is looking at ways to increase imports from the Soviet Union, the world's largest oil producer with an output of 12-million b/d. Yukong and Honam Oil already import more than 60,000 b/d from another socialist source—the People's Republic of China.

The industry is now faced with the vital task of expanding its crude processing capacity to meet the ever-increasing demand. To do this, it has been working overtime to increase refinery capacity from the present 840,000 b/d to 1,235,000 b/d by 1992.

Korea's marketing channel for petroleum products is divided into three parts: refiners, agents and service stations. Gasoline, diesel and kerosene are distributed to retail outlets via agents, since oil companies are prohibited from direct ownership at retail. At the beginning of 1990, there were five oil refining companies, about 105 agents and 2,760 service stations in Korea.

About 70% of the gasoline stations are owned by individual retailers and 30% are owned by agents or wholesalers/retailers.

Prior to 1980, refiners were allowed to own service stations. Then, in 1980 a law prohibiting new refiner-owned locations was enacted, but the companies were allowed to keep stations they already owned. Refiners got around this law somewhat by lending money to agents to build facilities, thus keeping their hooks in retail to some degree. Also under the law, agents are the designated distributors of

## KOREA'S CRUDE OIL IMPORTS FROM THE MIDDLE EAST

(Jan.-June '90)

| Country      | Imports<br>(in 10,000 bbl.) | Share of Total<br>Imports (%) |
|--------------|-----------------------------|-------------------------------|
| Saudi Arabia | 895                         | 5.3                           |
| Kuwait       | 1,268                       | 7.6                           |
| Neutral Zone | 673                         | 11.2                          |
| Iran         | 1,877                       | 1.2                           |
| Iraq         | 708                         | 4.2                           |
| UAE          | 2,950                       | 17.6                          |
| Qatar        | 438                         | 2.6                           |
| Oman         | 3,808                       | 22.7                          |

Data: Korea Petroleum Development Corp.

petroleum products to service stations; refiners are not permitted to supply stations directly as noted earlier. Sources say this is expected to change, too, in the new deregulated environment.

Another anticipated change in the law is the prohibition of foreign ownership or investment in service stations. As of now, only Korean citizens can own stations.

In many ways, the Korean retail industry is about where the U.S. industry was 10 or 15 years ago—and in some respects, earlier than that. Automotive service work in stations—TBA centers as Koreans call them—are widespread and very popular. Full-service at the pumps is

## Petroleum Industry Deregulation Plan

|                            | Initial Stage                                                                                                                                                           | Second Stage                                                                                                                                                                           | Third and Final Stage                                                                            |
|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|
| <b>Oil Prices</b>          | <ul style="list-style-type: none"> <li>•Linking to foreign exchange rates</li> <li>•Revisions of the price structure</li> <li>•Tax revisions</li> </ul>                 | <ul style="list-style-type: none"> <li>•Linking to international of prices</li> <li>•Abolition of the posting of consumer prices</li> </ul>                                            | <ul style="list-style-type: none"> <li>•Liberalization of oil prices</li> </ul>                  |
| <b>Refining</b>            | <ul style="list-style-type: none"> <li>•Abolition of the facilities change permission system</li> </ul>                                                                 | <ul style="list-style-type: none"> <li>•Abolition of the facilities expansion permission system</li> </ul>                                                                             | <ul style="list-style-type: none"> <li>•Liberation of the opening of business</li> </ul>         |
| <b>Distribution</b>        | <ul style="list-style-type: none"> <li>•Introduction of trademarks</li> <li>•Reduction of the distance between service stations</li> </ul>                              | <ul style="list-style-type: none"> <li>•Easing restrictions on sales agents</li> <li>•Transfer of power to permit the opening of service stations to provincial governments</li> </ul> | <ul style="list-style-type: none"> <li>•Liberalization of the opening of sales agents</li> </ul> |
| <b>Imports and Exports</b> | <ul style="list-style-type: none"> <li>•Abolition of the crude oil import permission system</li> <li>•Abolition of the import reporting system every quarter</li> </ul> | <ul style="list-style-type: none"> <li>•Abolition of the export recommendation system</li> <li>•Abolition of the crude import approval system</li> </ul>                               | <ul style="list-style-type: none"> <li>•Abolition of the import recommendation system</li> </ul> |

the only service available—self-serve is unknown. Convenience stores, however, are beginning to gain popularity. Quick lube outlets, unattended or cardlock stations and free car washes are practically unimaginable to Korean agents. Rollover car washes are available, but have a price tag on average of \$7 per wash. Station electronics, POS, etc., are still on the drawing boards.

### The majors

Korea's refining industry has been described as an oligopoly, with the top two companies controlling four-fifths of the country's petroleum market share.

Here's a brief rundown on Korea's five major producing companies:

#### Yukong Limited:

Yukong was established in 1963 as part of the first five-year socioeconomic development plan. It maintains about 42% of the market share. It has 5,250 employees and markets about 133-million bbl./yr.

#### Honam Oil Refinery Co. Ltd.:

Honam was established in 1967 and is the largest oil refining company in Korea with a capacity of 380,000 b/d. It has 2,023 employees and has an annual sales volume of about 118-million bbl.

#### Kyung In Energy Co., Ltd.:

Kyung was established in 1969. It has 870 employees and an annual sales volume of 27-million bbl.

#### Ssangyong Oil Refining Co., Ltd.:

Ssangyong was established in 1976. It was the first Korean company equipped with facilities for producing lube base oil. It has 1,230 employees and an annual sales volume of 41-million bbl.

Interestingly, Ssangyong Oil was ex-

pected to sign a contract to build a joint-venture oil refining plant in South Korea with the Saudi Arabian Oil Co., despite opposition from the government, sources say. The new refinery plant, estimated to cost about \$700-million, is expected to process about 80,000 b/d.

#### Kukdong Oil Co., Ltd.:

Kukdong was established in 1964. It has 1,314 employees and annual sales of 20,583 bbls.

### The beginning

The modern-day Korean petroleum industry got its start in 1964 when its largest oil company, Yukong Ltd., opened. Four more oil companies followed suit and the five oil companies—Yukong, Honam Oil Refinery Co., Kyung In Energy Co., Ssangyong Oil Refining Co. and Kukdong Oil Co.—account for to up to 840,000 b/d in refinery output at present.

It's interesting to note that all five refineries were joint ventures with foreign partners at the outset. However, in the '80s, Gulf Oil Co. and National Iranian Oil Co. withdrew from Yukong and Ssangyong. In 1983, Union Oil of California (Unocal) split off from Kyung In. Royal Dutch Shell parted ways with Kukdong in 1977. Now, except for Honam, which is still tied up with Caltex Petroleum Corp., the other four companies are now 100% owned by Korean investors.

Beginning in 1983, following the oil shortages and economic slumps of the previous decade, Korea's oil industry began to take off, growing at a pace of about 15%



Korea is making great strides in modernizing its petroleum facilities, but full-service remains the only method for gasoline dispensing.

per year. Spurred by overall economic growth, domestic oil demand soared 14.6% to 287,253,000 bbl. in 1989 and in 1990 demand was expected to rise 16.4%.

Similar to the U.S., the Korean government is also concerned about reducing air pollution. To date, the government is attempting to switch the fuel used in large cities from high-sulfur Bunker-C oil to such clean energy as LNG or low-sulfur oil. Since July 1987 it has mandated the use of unleaded gasoline for cars.

## Backward Soviet System Shocks Visiting Marketers



Pumps dating back to the 1950s, delivery trucks with leaking hoses, clerks figuring out sales on abacuses and fillup lines four blocks long are just a handful of sights U.S. marketers tell of a recent trip to the Soviet Union, Poland and Czechoslovakia.

Marketers returning from the "People To People" organized trip brought back vivid accounts of the shortages, long lines, public discontent and political uncertainty that the failing economies of the once-Communist countries are now undergoing.

"[The Soviet system] is a testament to free enterprise," observes Kent Johnson, of Fearless Farries Wholesale Company out of Boise, Idaho. "[You can] see the frustration of the people, how their equipment is very antiquated. And their methods of distribution...there are only so many ways to fill cars, but in Moscow, they're using old and outdated methods."



Johnson was one of 37 marketers traveling on a recent "People To People" trip, a travel organization formerly affiliated with the U.S. government that acts as a cultural exchange. The marketers, many of whom have high profiles in the jobber community, traveled at their own expense last fall to the cities of Prague in Czechoslovakia; Warsaw in Poland; and Moscow and Kiev, in the Soviet Union.

While the stories these marketers tell barely scratch the surface of the Eastern Bloc's economic plight, their insights from what they saw of gasoline marketing paint a vivid picture of where these countries are today and where they have yet to go.

By Angel Abcede  
Staff Reporter



neither the Poles nor the Russian occupiers had the technology to produce these deep reserves.

Today, Polish politicians are wary of being exploited. Even though they know that their crude oil and natural gas, if produced, could provide the financial resources to bring Poland into the 21st century, they are reluctant to grant outsiders authority to develop their oil and gas properties.

The new government leaders in Poland, by and large, are political amateurs. They have trouble making decisions and in sticking with the decisions they do make.

### Engineering skill

At least one well-known U.S. oil marketing equipment manufacturing company established a corporate beachhead in Poland within days after the Communist government had been swept away. This U.S. company now operates several corporate subsidiaries in Poland, all of which are involved in the design and development of marketing systems and software for use in the European market.

The company CEO, an American from the Midwest, speaks in glowing terms of the quality of the work being performed there. Older Polish and Czech engineers, he says, had become so accustomed to the noncompetitive Communist industrial en-

vironment that they are unable to make any real contribution to the company's operational strategy.

However, young Polish engineers, recent graduates of Polish technical colleges, are doing extremely outstanding work for the company. All of the engineers speak excellent English, the firm's CEO comments, and within six months after coming aboard they were assisting with the design of advanced systems, not only for use in the European market, but for use in the United States and Canadian markets, as well.

### Penetrating the EC market

There are, it is believed, extensive business opportunities in the new Europe for U.S. manufacturers of petroleum marketing equipment and systems.

Exploitation of these opportunities, however, requires a European presence—subsidiary companies, business partners, or strong distributors with an intimate understanding of the nuances of the European market.

Some of the executives with whom we talked expressed the view that any U.S. manufacturer who hopes to be a serious player in the European Community market, and who has not already established a solid corporate presence there, may have waited too long.

Even those U.S. manufacturers who have a strong foothold in Europe are going to find competition rigorous.

In the European market (as in most overseas markets, notably the Japanese), local manufacturers have a clear advantage. Each European country has established its own technical standards for oil marketing equipment and, typically, these standards are written in a way that makes it difficult for outside manufacturers to measure up.

Some U.S. manufacturers believe there will be a "homogenization" of technical standards next year, when the EC becomes a formal reality. That is, instead of 12 or 13 different technical standards in each of 12 or 13 different countries, there will be one set of technical standards that applies throughout Europe. A U.S. or Canadian manufacturer of oil marketing equipment who manages to conform to this single set of standards would thus be able to market his or her products anywhere from Greece to Scotland without requalifying the company's technology in each local market.

That is the scenario of an optimist. Other U.S. manufacturers believe that even though Europe will be politically united into a single market, individual country-states will continue to find ways to enforce their own technical standards,

## U.K. Market Settling Down After Buyouts, Oil Shock



Gasoline marketing in the United Kingdom in recent years has been a whirlwind of public scrutiny, price spikes and corporate buyouts.

In a land where the little chaps of the "petrol" industry appear to dictate price to the oil kings, movement in the marketplace seems as volatile as anywhere in the U.S.

Visually, it's a marketplace that closely resembles Anywhere, U.S.A. Canopied pumps, convenience stores and rollover car washes are commonplace. High image standards featuring clean, well-lit locations also appear to go over well across the Atlantic.

"Petrol is a distress purchase here in the U.K., something people feel forced to buy," says one British economist. "So the conveniences and amenities are attractive to motorists."

Some may argue the U.K. also resembles the U.S. in the amount of

government scrutiny it receives. Since an industrywide investigation by the Monopolies and Mergers Commission (MMC) culminated in early 1990, two more government probes have been launched by separate government entities.



Skyrocketing street prices are partly to blame. In the wake of the Iraqi invasion of Kuwait last August, prices zoomed 30 pence (52¢) per what are called "imperial" gallons (somewhat larger than the U.S. gallon). Politicians and the tabloid press stirred up a public storm over the in-

creases.

Besides backlash from consumers, uncertain times have put many companies in peril. The crisis in the Middle East certainly put to question the future of the Kuwaiti-owned chain of "Q-8" gasoline outlets in the U.K., but despite rumored sellouts, so far, it has been business as usual, with the Kuwaitis finding alternate sources of supply.

Other businesses did change hands as two major buyouts occurred during the past two years. One of these involved Amoco, which sold its U.K. marketing assets to a French firm. The Chicago-based major oil company appeared to many in the industry to be pulling out of a market where they simply didn't have enough presence. Observers say this reflects the overall strategy the majors appear to be pursuing in the U.S., i.e., pulling back to their primary market areas.

### The public eye

Activity in the U.K. oil industry at many points in the year became page one fodder for the popular press. Including the MMC

By Angel Abcede  
Staff Reporter

investigation, no less than three major probes were conducted by separate governmental bodies.

The first and most significant investigation was the one conducted by the MMC. That took 12 months and has been described as the most thorough investigation ever of the U.K. oil industry. When it concluded in the early part of last year, it produced a 500-page report.

Triggering the probe were allegations of price fixing, fueled by the fact that most of the retail outlets in the U.K. belonged to a handful of major oil companies.

Everything from fines to retail divorce-ment loomed as penalties if the MMC investigation turned against the oil companies. However, after a year of holding its breath, the industry found itself vindicated of any wrongdoing. The report held that prices were set in response to market conditions and that no collusion or price fixing among the companies ever took place.

Several months later, the price spike caused by the Persian Gulf war set off a frenzy of protest by the British public, an outcry fanned by the tabloid press and politicians promoting the image of the "profiteering and opportunistic" oil companies.

This time around, the Office of Fair Trading put the oil companies under the magnifying glass, but again could find no evidence of undue greed or opportunism.

Not satisfied, Parliament decided to get into the act, authorizing a third investigation and forming a Select Committee on Energy to look into pricing. But that probe too exonerated the oil companies of any wrongdoing.

Innocent though they might be, oil companies in the U.K. seem to suffer from some of the same image problems as their U.S. counterparts. "The oil companies...have a singular inability to communicate to the public," says one British economist.

Philip Algar, an oil industry economist says the oil companies were only respond-

ing to market forces when crude prices shot up. The companies were "relatively slow in [raising street prices] and relatively quick to pull them down," he says.

Algar says consumers should be made aware of the big tax bite the government claims on each gallon of gasoline—67% of that imperial gallon.

"Along with the price of gasoline at the pump ought to be a sticker that says how much goes to the government," Algar says. "But the oil companies are scared of upsetting the U.K. government for fear of losing out in the allocation of licenses for North Sea production."

#### Who's who?

Just who are the big players in the U.K. retail market? In a universe of roughly 19,000 retail outlets, Shell ranks No. 1 with 2,653 locations. Esso (or Exxon) comes in second with 2,520. In third place is British Petroleum, the very same BP that's brightening up the U.S. landscape with its green and yellow canopies.

BP, in the midst of a similar upgrade and investment program in its homeland, has 1,992 locations. Of the big three, BP is the only international company with headquarters in the U.K. (Figures obtained from the Petroleum Review Supplement, "Retail Marketing Survey, March 1991" available through The Institute of Petroleum in London. Cost: L25.)

The top three companies own roughly half of their locations, with a good majority of them being self-serve.

Of Shell's locations, almost half, or 1,130, are company-owned and 1,504 are self-serve. For Esso, it is 982 company-owned and 1,288 self-serve. BP owns 769 of its branded outlets and operates 1,368 of them self-serve.

Major brands familiar to U.S. marketers who also maintain a strong presence in the U.K. are Texaco, Mobil and American Petrofina. They rank 5th, 7th and 8th respectively in numbers of outlets (see sidebar).

Brands U.S. marketers may not be familiar with include Burmah/Major, (4th) with 1,097 stations; Jet, (6th) with 857 stations;

Q-8/Pace, (8th) with 588 stations; and Elf Aquitaine, the French oil giant, (11th) with 532 stations.

Other recognized brand names include Total, Gulf, Maxol, Heron, Flare, Phoenix and Telegraph.

#### The market

All told, there are roughly 60 companies marketing in the U.K. Although a vast majority of the retail outlets belong to the major oil companies, experts say the market is not completely dominated by the big boys.

"The little guys, without massive overhead, buy relatively cheaply at Rotterdam and are very competitive," Algar says. "There's an expression: The tail is wagging the dog. Sometimes the tail not only wags the dog but smashes it on the ground."



Texaco is one of the more familiar U.S. brands also popular in the U.K.



For many U.K. stations, service bays are giving way to C-stores.

When independents undercut, the bigger companies are obliged to compete."

Gasoline stations in the U.K. are generally owned by the oil companies, smaller chains or independent retailers. There is no wholesale class of trade to speak of in the U.K., so most stations are supplied directly by the majors or smaller chain retailers. As in the U.S., most new marketing investments are being allocated to company-owned and operated stores.

In the last two or three years, C-stores, or "shops," have become more widespread. Unleaded gasoline is also taking hold in the British marketplace. Four years ago there was no unleaded product to speak of in the market. Now unleaded gasoline accounts for one fourth of all gasoline sold there.

Algar says that while big companies do not control the competitive pricing situation on the streets, they have the muscle to install up-to-date equipment, modern



French controlled retail chain Elf Aquitaine expects to incorporate the roughly 25% Amoco stations it purchased last year into its chain by the end of 1991.

pumps and newly styled outlets.

BP, for instance, is renovating sites in much the same way it has done in the U.S. These investments make sense due to one interesting English anomaly: the company-owned car. In the U.K., roughly 50% of British motorists drive company cars. It's a company perk that most people in the U.S. are unfamiliar with. So while price still remains important, motorists enjoying the use of company vehicles are also attracted by image and convenience.

The high percentage of company cars on the road usually allows marketers such as BP to command better margins for gasoline. And the company appears set on getting a higher return on its retail investments, or as one BP spokesman says, "Being No. 3 in the market, we have a different strategy. For other companies the goal may be volume. Ours is profit."

#### The 'new' look

BP, Shell and Esso have been investing in the type of retail facilities most marketers in the U.S. would be comfortable with. Canopies, MPDs, rollover car

washes and C-stores have been popping up all over the countryside.

Basically, the station configurations look like their U.S. cousins, although most locations have smaller drive-through areas than stations in the U.S.

The C-stores are typically medium-sized, averaging about 1,000-1,200-sq.ft. One of BP's prototype stores located next to its modern headquarters in Hemel Hempstead is a larger store with roughly 2,000-sq.ft.

C-stores in the U.K., on the whole, are not

as diversified as those in the U.S. Most of the merchandise is in packaged candies, motor oils and various liquid refreshments.

Microwaves with pizza and sandwiches in nearby coolers appear to be the extent of fast food involvement. There are few delis or fast food departments.

#### Kuwaiti question

Where certain companies are beginning to move ahead in such areas as C-store development, the problem for some chains is one of survival.

The Kuwaiti "Q-8" chain had obstacles to overcome with the Iraqi occupation and subsequent war.

In an interview published in an internal publication, Nader Sultan, president of Kuwait Petroleum International (KPI) says the company had to move in the days following the invasion. "We had to work quickly on two main fronts: to keep our everyday business running smoothly and at the same time restructure KPI's operations to take account of what had happened."

Nader Sultan explains that there were questions of legality and authority in those first confusing days. "Some people questioned the legitimacy of those acting on [the company's] behalf outside the country. For example, they would ask on whose authority we were redirecting tankers at sea."

Then KPI had the task of securing 400,000 b/d it had formerly received from its own sources in Kuwait. To replace that lost product, KPI officials

went to the open market to purchase supplies, principally from Saudi Arabia.

#### Buyouts

Amoco's pullout from the U.K. came about with the selloff of its marketing assets to Elf Aquitaine. The sale involved about 250 locations, adding considerably to the Paris-based company's U.K. retail asset base.

"Basically, the sale is in line with Amoco's strategies to divest its refining and refined petroleum products marketing operations outside the U.S.," says one Amoco spokesperson, adding that it has been a strategy in place for some time now.

Elf Aquitaine says it will complete its integration of the Amoco units into its

#### THE U.K.'S TOP OIL COMPANIES

| Brand Name | Total No. of retail outlets | Total No. of self-service company-owned | Total No. of company-owned |
|------------|-----------------------------|-----------------------------------------|----------------------------|
| Shell      | 2,653                       | 1,576                                   | 1,163                      |
| Esso       | 2,520                       | 1,420                                   | 1,115                      |
| BP/        | 1,992                       | 1,837                                   | 883                        |
| National   |                             |                                         |                            |
| Burmah/    | 1,374                       | 513                                     | 217                        |
| Major      |                             |                                         |                            |
| Texaco     | 1,268                       | 1,208                                   | 705                        |
| Jet        | 1,112                       | 753                                     | 257                        |
| Mobil      | 890                         | 813                                     | 530                        |
| Q-8/Pace   | 876                         | 239                                     | 86                         |
| Fina       | 844                         | 615                                     | 245                        |
| UK         | 668                         | 33                                      | 12                         |
| Elf        | 659                         | 532                                     | 369                        |

Source: Retail Marketing Survey, Supplement to the Petroleum Review. Published by the Institute of Petroleum. Available for L25.

chain sometime this year.

Another continental firm, Repsol, has also set up shop in the U.K. retail market. A Spanish firm, Repsol purchased Carless, a strong U.K. independent, back in mid-1989, and while it has yet to come out with a Repsol brand, sources say the company intends to do so in the near future.

#### A new market

U.S. marketing execs see plenty of potential in the British market. For many U.S. corporations, England and its English-speaking population makes for a good first step into the international marketplace.

One recent arrival on the U.K. petroleum scene was a car wash manufacturer out of Green Bay, Wisc. PDQ Manufacturing Inc. has linked up with a U.K. distributor to market its "Laserwash" line of frictionless, in-bay car washes.

A spokesman for PDQ says, "A marketing strategy is already being developed to include other European countries."



The No. 2 player in the market, Exxon is known as "Esso" in the U.K.



# Letters to the Editor



## Thanks

Just a short note to thank you [Dick Shaner] once again for the fine article you did about Tyree Co. and our infamous soil burning monster machine [NPN—May '89, p48].

After two years of battling with every bureaucratic idiot that New York state could muster up against us, we finally won!

We are fully licensed in New York state and are successfully performing soil cleansing jobs in the New York area.

I thought you might be interested in hearing this news.

I hope this finds you in good health.

William F. Tyree  
Larry E. Tyree Co., Inc.

## More Thanks

Thank you for the courtesy of printing our news item about T.I.N.Y. [NPN—April '91, p17]. I just received my copy Monday and already have had several people contact me regarding the article.

As I mentioned in my previous letter, I have always enjoyed your publication and still do...very much! I look forward to much more interest in our venture because of the timely publication of your article in the April issue.

I wish you continued success in your endeavors and, trying not to be repetitious, all of T.I.N.Y.'s charter members and future members thank you.

John F. Pirong  
Vice President  
Clemett and Co., Inc.

## Conventional Wisdom

Once again, allow me to express my profound gratitude to you [Peggy Smedley] for all the assistance and support which you and your staff so generously supplied in connection with our recent convention and trade show.

As always, your advice and suggestions were extremely helpful and were invaluable in making the event the success that it was. The daily distribution of the Stations 'n Stores special edition was terrific. Our members really appreciated it.

I really regret that I was unable to get in

on the "Survival" seminar, but I heard that it was excellent. One thing of which I am certain, even without having been there, is that the moderator was superb.

Your assistance and very effective "support system" is very much appreciated and I hope the opportunity will present itself which will allow me to reciprocate in some way for your kindness to me and the association.

William R. Deutsch  
Executive Vice President  
Illinois Petroleum Marketers Assn.  
Illinois Assn. of Convenience Stores

## Still Viable

On page 9 of the April issue of NPN, there was an article on the Chapter 11 filing of AcuTest Corp. It gave the impression that the tank testing system distributed by them may not be available in the future.

AcuTest Corp. is only a distributor of the Leak Computer Tank Test System manufactured by Hasstech, Inc. Over 120 of these systems, each capable of testing four tanks simultaneously, are operated by independent tank testers throughout the U.S. and Canada. I can assure you that these tank testers are healthy and are continuing to work with no regard to the problems that AcuTest may have.

I would also like to assure those tank testers and any future purchasers that Hasstech is quite healthy and will continue to manufacture and sell the Leak Computer Tank Test System as well as pipeline leak detection systems, soil remediation systems and other products for the petroleum industry.

In the same issue, there was a very interesting article about the number of service stations. Using the reported figure of 210,120 stations and using a figure of three tanks per station, this would calculate to a total of 630,360 underground tanks. This is only 1/3 of the total number of underground tanks reported by EPA (1.8-million at last count). It would appear that the number of service stations is probably above 300,000. That still leaves 900,000 underground storage tanks for farms, private owners and the chemical industry.

Keep up the good reporting. I love every issue.

Detlev E. Hasselmann  
Hasstech, Inc.

## Desperation

Maybe I am writing to you out of desperation, so I'll start from the beginning.

In the summer of 1989, the state EPA notified all stations in Minnesota that if storage tanks were 20 years old or older, they would have to be replaced with all new equipment or be locked up by Oct. 31, 1989. Since our tanks and equipment were the oldest in town—36 years old—we chose to lock the doors because we couldn't afford to replace everything. We called the EPA and got permission to remove our tanks and had tests made. There was a lot of contamination, so being that winter was coming on, we were given permission to excavate and put in new gravel. But being at lake level, we had more tests made in October 1990, and the results were that the already contaminated water had contaminated the \$8,000 worth of soil that we had replaced.

So now we are \$13,000 in debt with a bank loan, and here we sit today—deep in debt and no solution. I haven't worked since we locked the doors. We can't sell, but are still stuck with real estate taxes. Maybe I'm writing to the wrong place when I should be writing or calling Brian Eitesvold, director of the Minnesota Service Station Assn., but I have no address or telephone number. Please help me, as I am going out of my mind.

John Bjors  
B & B Sinclair  
Glenwood, MN

## CLARIFICATION

In the March 1991 issue of NPN, a table (page 22) listing C-store chains that filed for either Chapter 11 bankruptcy protection or Chapter 7 liquidation included two Regal stations of Wickland Oil Co. of Sacramento, Calif. The list was obtained from a usually reliable trade source. Wickland has informed NPN the reference to the Regal stations was incorrect. Also, in the April 1991 issue of NPN on page 9 we reported that Houston-based Accutest continues to struggle under Chapter 11. It should have been reported that Houston-based AcuTest is struggling under Chapter 11. Accutest Laboratories of Dayton, N.J., has no affiliation with the aforementioned tank testing company. NPN regrets these errors.

Letters to the Editor, with the writers' names, address and daytime phone number should be sent to The Editor, National Petroleum News, 950 Lee Street, Des Plaines, IL 60016 or Fax: 708/803-3328. Letters are subject to editing for reasons of space and clarity.



# NOTE

ONLY THE FOLLOWING PAGES OF THIS  
PUBLICATION HAVE BEEN FILMED

Cov. 1, Pgs: 3, 7, 9-11, 13-18,  
20-23, 26-32, 34-52, 55-64,  
66-76, 79-84, 86-92, 95-105,  
107-110, 112-118, 120-126,  
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181-183

\$50.00

VOL. 83 NO. 7

# NPN

*National Petroleum News*

1991

fact<sup>•</sup>

book

**NPN**  
**NATIONAL PETROLEUM NEWS**  
*Established in 1909*

VOL. 83

NO. 7

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NPN—National Petroleum News (ISSN 0149-5267) is published monthly (except semi-monthly in June) by Hunter Publishing Limited Partnership, 950 Lee Street, Des Plaines, Illinois 60016, (708) 296-0770.

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Second class postage paid at Des Plaines, Illinois and additional mailing offices.

Subscriptions are solicited only from executive, management and supervisory personnel at the supplier and wholesale level of oil marketing, engaged in the distribution, merchandising, transportation and storage of petroleum, TBA products, and convenience store items. Position, company and segment of industry must be indicated on subscription orders.



Basic subscription rates for one year to individuals in the petroleum marketing industry are: U.S. \$60; Canada \$69 (U.S. \$); Foreign surface mail \$75 (U.S. \$); Foreign airmail \$110 (U.S. \$). Non-industry personnel rates for one year are: U.S. \$75; Canada \$84 (U.S. \$); Foreign surface mail \$90 (U.S. \$); Foreign airmail \$134 (U.S. \$). Single copy price: U.S. & Canada \$9.00 (includes first class postage). Foreign \$11.00 (includes airmail postage). **Mid-June Factbook:** U.S. \$50; Canada \$60; Foreign \$70. The publisher reserves the right to accept or reject any subscription. (R) Title registered in U.S. patent office. **Change of address:** Notices should be sent promptly; provide old mailing label as well as new address; include ZIP or postal code. Allow 6-8 weeks for change. Send address changes, correspondence regarding subscription service or subscription orders to: Circulation Department, NATIONAL PETROLEUM NEWS, 950 Lee Street, Des Plaines, Illinois 60016. Or call (708) 296-0770, 9 a.m. to 4 p.m.

Postmaster: Send address changes to NPN—NATIONAL PETROLEUM NEWS, 950 Lee Street, Des Plaines, Illinois 60016.

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## Twenty Oil Companies Elevate Asset Values with Ten Hitting New Peaks

Of the 23 U.S. oil companies that have assets of \$1-billion or more, almost all of them fattened up their corporate structures in 1990, from 1.3% to as much as 47.1%. Ten of the companies established new asset peaks in 1990, while others achieved peak performances two to eight years earlier.

Those that set new peaks in 1990 were Exxon, Amoco, Shell, Coastal, Amerada Hess, Pennzoil, Ashland, American Petrofina, Citgo and Diamond-Shamrock Marketing & Refining, a relatively new marketing-only restructure.

The others that improved their 1990 standings, vis a vis 1989, but did not set record highs in the process were Mobil, Chevron, Texaco, Arco, BP America, Phillips, Conoco, Unocal, Sun and Kerr-McGee. Marathon, Murphy and Total Petroleum were the only ones in the elite group that failed to add economic poundage to their frames in 1990.

On a percentage basis, the biggest increases were recorded by Citgo (47.1%) and Amerada Hess (31.9%). The biggest decreases were by Murphy (22.3%) and Total Petroleum (7.2%). Marathon also had a 1.7% decline, but this is a strong growth company so this can be regarded as more of an aberration than a lapse of any consequence.

Exxon, the nation's biggest oil company, continued to dominate everything in sight in 1990. Its assets rose 5.4%, from \$83.2-billion in 1989 to \$87.7-billion in 1990. For the record, this was the seventh consecutive year that Exxon has increased its total worth. If this pace of growth continues, it can be expected that Exxon will top the \$100-billion mark long before the year 2000 gets here. Over the last six years, Exxon has increased its corporate dimensions by \$18.5-billion.

While most of the oil companies continue to grow annually, some are down drastically from their peak years. For example, Texaco is down 31% from its all-time high of \$37.8-billion in 1984 while Sun also is 30% smaller than its old self. Chevron, which headed for the stars in 1984 when it purchased the old Gulf Oil Co., is 23% smaller than its post-acquisition peak. Murphy is down substantially too. It is 23% smaller than it was in 1982 when its assets amounted to almost \$3-billion.

Take all those percentage increases with a grain of salt, however. Consider, for example, that a one-year growth of 5.4% by Exxon represents about \$4.5-billion in

cash, and a 47.1% increase by Citgo is worth about \$1-billion dollars. A 40% decrease by Murphy is depreciated to about \$800-million.

Industry observers are not yet ready to concede that the big wheeler-dealer days of the '80s are over. A sign of the times, for example, could be Getty Oil's announcement that it has retained a New York broker to review the options it has at hand—buying, selling, merging or what-have-you. Citgo is on the prowl too, with a bag of Venezuelan money readily available. There was some talk that the two

companies had already had informal contact. Both sides denied the rumor quickly—but such a deal would make one heckuva independent oil company if it actually came to pass.

There is much speculation about Southland Corp.'s restructuring now that a Japanese firm owns three-fourths of it. Southland is the convenience store industry's biggest marketer of gasoline. The Japanese firm ostensibly was interested primarily in the C-store assets but what's going to happen in the years ahead makes for interesting speculation.

### Ranking the Top 23 Marketing Companies

| Company                  | Total Assets |      | Gross Revenues |      | Net Income |      | Sales Ranking Among Top 500 |      |
|--------------------------|--------------|------|----------------|------|------------|------|-----------------------------|------|
|                          | 1990         | 1989 | 1990           | 1989 | 1990       | 1989 | 1990                        | 1989 |
| Exxon .....              | 1            | 1    | 1              | 1    | 1          | 1    | 2                           | 3    |
| Mobil .....              | 2            | 2    | 2              | 2    | 5          | 5    | 5                           | 6    |
| Chevron .....            | 3            | 3    | 4              | 4    | 3          | 12   | 10                          | 11   |
| Amoco .....              | 4            | 4    | 5              | 5    | 6          | 6    | 12                          | 12   |
| Shell .....              | 5            | 5    | 6              | 6    | 10         | 8    | 14                          | 13   |
| Texaco .....             | 6            | 6    | 3              | 3    | 7          | 2    | 8                           | 10   |
| Arco .....               | 7            | 7    | 7              | 7    | 4          | 4    | 21                          | 22   |
| BP America .....         | 8            | 8    | 8              | 8    | 2          | 3    | NR                          | NR   |
| Phillips .....           | 9            | 9    | 11             | 9    | 11         | 13   | 27                          | 30   |
| Conoco .....             | 10           | 10   | 9              | 10   | 9          | 10   | NR                          | NR   |
| Marathon .....           | 11           | 12   | 10             | 13   | 8          | 9    | NR                          | NR   |
| Unocal .....             | 12           | 11   | 13             | 12   | 13         | 11   | 45                          | 40   |
| Coastal .....            | 13           | 13   | 14             | 11   | 16         | 15   | 51                          | 45   |
| Amerada Hess .....       | 14           | 15   | 17             | 16   | 12         | 17   | 68                          | 69   |
| Sun .....                | 15           | 14   | 12             | 15   | 15         | 19   | 37                          | 46   |
| Pennzoil .....           | 16           | 16   | 20             | 19   | 21         | 7    | 190                         | 164  |
| Ashland .....            | 17           | 17   | 15             | 14   | 17         | 20   | 56                          | 58   |
| Kerr-McGee .....         | 18           | 18   | 18             | 17   | 18         | 18   | 129                         | 144  |
| American Petrofina ..... | 19           | 20   | 19             | 18   | 19         | 16   | 124                         | 148  |
| Citgo .....              | 20           | 21   | 16             | 20   | 14         | 14   | NR                          | 105  |
| Murphy .....             | 21           | 19   | 21             | 22   | 20         | 21   | 210                         | 241  |
| Total Petroleum .....    | 22           | 22   | 22             | 23   | 23         | 23   | NR                          | NR   |
| Diamond Shamrock .....   | 23           | 23   | 23             | 21   | 22         | 22   | 166                         | 206  |

(a) As ranked by Fortune 500, April 1991.  
NR - Not ranked by Fortune 500.



## Major Oil Company 1990 Annual Reports

## Financial

| Company                 | Gross Sales—Operating Revenues |         |          | Net Income    |       |          | Net Income       |      |
|-------------------------|--------------------------------|---------|----------|---------------|-------|----------|------------------|------|
|                         | (Add 000,000)                  |         |          | (Add 000,000) |       |          | % of Gross Sales |      |
|                         | 1990                           | 1989    | % Change | 1990          | 1989  | % Change | 1990             | 1989 |
| Amerada Hess.....       | \$7,081                        | \$5,679 | 24.7%    | \$483         | \$476 | 1.5%     | 6.8%             | 8.4% |
| American Petrofina..    | 3,978                          | 3,036   | 31.0     | 126           | 119   | 5.9      | 3.2              | 3.9  |
| Amoco .....             | 28,010                         | 23,966  | 16.9     | 1,913         | 1,610 | 18.8     | 6.8              | 6.7  |
| Ashland .....           | 8,498                          | 7,989   | 6.4      | 182           | 86    | 111.6    | 2.1              | 1.1  |
| Atlantic Richfield .... | 18,008                         | 15,351  | 17.3     | 2,011         | 1,953 | 3.0      | 11.2             | 12.7 |
| BP America .....        | 18,620                         | 16,298  | 14.2     | 2,631         | 2,188 | 20.2     | 14.1             | 13.4 |
| Chevron .....           | 41,540                         | 31,916  | 30.2     | 2,157         | 251   | 759.4    | 5.2              | 0.8  |
| Citgo .....             | 7,643                          | 4,941   | 54.7     | 99            | 161   | (38.5)   | 1.3              | 3.3  |
| Coastal.....            | 9,381                          | 8,271   | 13.4     | 226           | 170   | 32.9     | 2.4              | 2.1  |
| Conoco .....            | 16,367                         | 12,682  | 29.1     | 1,078         | 538   | 100.4    | 7.0              | 4.0  |
| Diamond Shamrock .....  | 2,708                          | 2,091   | 29.5     | 77            | 28    | 175.0    | 2.9              | 1.3  |
| Exxon .....             | 116,940                        | 96,285  | 21.5     | 5,010         | 3,510 | 42.7     | 4.3              | 3.6  |
| Getty* .....            | 1,263                          | 1,184   | 6.6      | (10)          | 23    | —        | —                | 1.9  |
| Marathon .....          | 13,283                         | 11,080  | 19.9     | 494           | 384   | 28.6     | 3.7              | 3.5  |
| Mobil .....             | 64,472                         | 56,188  | 14.7     | 1,929         | 1,809 | 6.6      | 3.0              | 3.2  |
| Murphy.....             | 2,013                          | 1,653   | 21.8     | 114           | 47    | 142.6    | 5.7              | 2.8  |
| Phillips.....           | 13,603                         | 12,384  | 9.8      | 779           | 219   | 255.7    | 5.7              | 1.8  |
| Shell .....             | 24,790                         | 21,948  | 12.9     | 1,036         | 1,405 | (26.3)   | 4.2              | 6.4  |
| Sun .....               | 13,270                         | 11,168  | 18.8     | 229           | 98    | 133.7    | 1.7              | 0.9  |
| Texaco .....            | 41,822                         | 35,656  | 17.3     | 1,450         | 2,413 | (40.0)   | 3.5              | 6.8  |
| Unocal.....             | 10,645                         | 10,056  | 5.9      | 401           | 260   | 54.2     | 3.8              | 2.6  |

\*Fiscal year is Jan. 31, 1990—Jan. 1, 1991.

## Quarterly and Full-Year Earnings — 1990 vs. 1989

(Add 000,000)

| Company                  | 1st Qtr.<br>1990 | 2nd Qtr.<br>1990 | 3rd Qtr.<br>1990 | 4th Qtr.<br>1990 | Full Year<br>1990 | Full Year<br>1989 | %<br>Change |
|--------------------------|------------------|------------------|------------------|------------------|-------------------|-------------------|-------------|
| Exxon .....              | \$1,280.0        | \$1,110.0        | \$1,075.0        | \$1,555.0        | \$5,010.0         | \$3,510.0         | 42.7%       |
| Mobil .....              | 400.0            | 498.0            | 379.0            | 651.0            | 1,928.0           | 1,809.0           | 6.6         |
| Chevron .....            | 473.0            | 648.0            | 403.0            | 633.0            | 2,157.0           | 251.0             | 759.4       |
| Amoco .....              | 466.0            | 379.0            | 530.0            | 538.0            | 1,913.0           | 1,610.0           | 18.8        |
| Shell .....              | 203.0            | 161.0            | 227.0            | 446.0            | 1,036.0           | 1,405.0           | (26.3)      |
| Texaco .....             | 328.0            | 353.0            | 381.0            | 338.0            | 1,450.0           | 2,413.0           | (39.9)      |
| BP America .....         | 732.0            | 528.0            | 540.0            | 800.0            | 2,631.0           | 2,188             | 20.2        |
| Arco .....               | 547.0            | 391.0            | 462.0            | 566.0            | 2,011.0           | 1,953.0           | 3.0         |
| Phillips .....           | 259.0            | 105.0            | 178.0            | 237.0            | 779.0             | 219.0             | 255.7       |
| Conoco .....             | 197.0            | 166.0            | 126.0            | 405.0            | 1,078.0           | 538.0             | 100.4       |
| Unocal .....             | 77.0             | 165.0            | 121.0            | 38.0             | 410.0             | 260.0             | 54.2        |
| Marathon .....           | 242.0            | 315.0            | 278.0            | 338.0            | 1,138.0           | 987.0             | 15.3        |
| Sun .....                | 71.0             | 115.0            | 25.0             | 18.0             | 229.0             | 98.0              | 133.7       |
| Coastal .....            | 75.6             | 22.1             | 33.0             | 94.9             | 225.6             | 170.1             | 32.6        |
| Amerada Hess .....       | 39.7             | (72.1)           | 280.0            | 235.2            | 482.7             | 476.3             | 1.3         |
| Pennzoil .....           | 33.7             | 4.8              | 26.4             | 29.9             | 93.8              | 103.5             | (9.4)       |
| Ashland* .....           | (11.0)           | 1.0              | 100.0            | 59.1             | 149.1             | 182.0             | (18.3)      |
| Kerr-McGee .....         | 27.1             | 30.1             | 43.1             | 49.9             | 150.2             | 156.0             | (3.7)       |
| American Petrofina ..... | 26.2             | 53.8             | 26.5             | 19.6             | 125.5             | 119.1             | 5.4         |
| Murphy .....             | 22.0             | 28.5             | 37.6             | 18.9             | 113.9             | 46.6              | 144.4       |
| Citgo .....              | 46.3             | 84.1             | 37.4             | 84.2             | 252.0             | 1,970.0           | 27.9        |
| Diamond-Shamrock .....   | 4.3              | 28.6             | 53.2             | 7.7              | 77.5              | 28.1              | 175.8       |
| Total Petroleum .....    | (12.3)           | 17.2             | 36.8             | 0.3              | 42.0              | 48.5              | (12.9)      |

\*Fiscal year ends Sept. 30, 1990; these are correct calendar year quarters.

## Operating

| Company                | Net Crude Production b/d |         |         |           | Refinery Crude Runs b/d |           |           |           | Domestic Refined Product Sales |           |
|------------------------|--------------------------|---------|---------|-----------|-------------------------|-----------|-----------|-----------|--------------------------------|-----------|
|                        | Domestic                 |         | Foreign |           | Domestic                |           | Foreign   |           | 1990                           | 1989      |
|                        | 1990                     | 1989    | 1990    | 1989      | 1990                    | 1989      | 1990      | 1989      |                                |           |
| Amerada Hess.....      | 62,434                   | 60,992  | 98,347  | 79,250    | 383,000                 | 397,000   | —         | —         | 428,000                        | 470,000   |
| American Petrofina..   | 22,500                   | 22,378  | —       | —         | 175,000                 | 165,000   | —         | —         | —                              | 234,406   |
| Amoco.....             | 361,000                  | 390,000 | 421,000 | 425,000   | 903,000                 | 896,000   | 32,000    | 64,000    | 1,025,000                      | 1,001,000 |
| Ashland.....           | 1,843                    | 2,084   | 40,018  | 33,540    | 138,042                 | 125,304   | 187,158   | 178,915   | 363,733                        | 345,903   |
| Atlantic Richfield.... | 638,300                  | 660,000 | 67,100  | 70,100    | 401,100                 | 401,900   | —         | —         | 440,000                        | 435,500   |
| BP America.....        | 737,000                  | 784,000 | 585,000 | 628,000   | 699,000                 | 717,000   | 1,080,000 | 1,133,000 | 925,000                        | 898,000   |
| Chevron.....           | 458,000                  | 482,000 | 381,000 | 375,000   | 1,406,000               | 1,403,000 | 155,000   | 376,000   | 1,489,000                      | 1,469,000 |
| Citgo.....             | —                        | —       | —       | —         | 51,000                  | 71,640    | 218,000   | 209,981   | 633,000                        | 517,000   |
| Coastal.....           | 10,285                   | 9,385   | —       | —         | 255,000                 | 238,000   | —         | —         | 779,800                        | 766,800   |
| Conoco.....            | 118,000                  | 112,000 | 283,000 | 285,000   | 409,000                 | 396,000   | 238,000   | 222,000   | 490,000                        | 451,000   |
| Diamond Shamrock..     | —                        | —       | —       | —         | 144,765                 | 129,990   | 16,765    | 28,546    | 184,557                        | 179,661   |
| Exxon.....             | 640,000                  | 693,000 | 962,000 | 1,008,000 | 868,000                 | 999,000   | 2,408,000 | 2,300,000 | 1,109,000                      | 1,147,000 |
| Marathon.....          | 126,100                  | 143,500 | 71,000  | 65,100    | 567,200                 | 554,000   | —         | —         | 689,000                        | 666,000   |
| Mobil.....             | 324,000                  | 315,000 | 455,000 | 446,000   | 729,000                 | 722,000   | 954,000   | 1,030,000 | 903,000                        | 939,000   |
| Murphy.....            | 13,449                   | 14,902  | 25,589  | 29,150    | 101,312                 | 96,687    | 22,628    | 25,594    | 106,568                        | 103,671   |
| Phillips.....          | 249,000                  | 266,000 | 123,000 | 116,000   | 297,000                 | 293,000   | —         | —         | 579,000                        | 588,000   |
| Shell.....             | 401,000                  | 427,000 | 80,000  | 81,000    | 925,000                 | 990,000   | —         | —         | 1,188,000                      | 1,207,000 |
| Sun.....               | —                        | —       | 63,600  | 59,600    | 554,300                 | 561,200   | 66,900    | 68,900    | 640,500                        | 655,100   |
| Texaco.....            | 458,000                  | 480,000 | 352,000 | 353,000   | 679,000                 | 619,000   | 706,000   | 737,000   | 858,000                        | 809,000   |
| Unocal.....            | 153,000                  | 162,000 | 101,000 | 91,000    | 260,000                 | 352,000   | —         | —         | 443,000                        | 523,000   |

— indicates company does not have operations in this category.

## Downstream in 1990 — Earnings Were A Mixed Bag

(Add 000,000)

| Company                | 1st Qtr.<br>1990 | 2nd Qtr.<br>1990 | 3rd Qtr.<br>1990 | 4th Qtr.<br>1990 | Full Year<br>1990 | Full Year<br>1989 | %<br>Change |
|------------------------|------------------|------------------|------------------|------------------|-------------------|-------------------|-------------|
| Exxon Total.....       | \$191            | \$574            | \$246            | \$306            | \$221             | \$1,098           | (80)        |
| Domestic.....          | (28)             | 76               | 54               | (24)             | 98                | 370               | (74)        |
| Foreign.....           | 219              | 498              | 192              | 330              | 123               | 728               | (83)        |
| Mobil Total.....       | 92               | 278              | 5                | 254              | 619               | 655               | (6)         |
| Domestic.....          | 39               | 58               | (22)             | 21               | 96                | 319               | 70          |
| Foreign.....           | 53               | 220              | 27               | 233              | 523               | 336               | 56          |
| Chevron Total.....     | 130              | 448              | 35               | 150              | 763               | 134               | 469         |
| Domestic.....          | 59               | 370              | (53)             | —                | 376               | (82)              | —           |
| Foreign.....           | 71               | 78               | 88               | 150              | 387               | 216               | 79          |
| Texaco Total.....      | 136              | 328              | 169              | (15)             | 618               | 460               | 34          |
| Domestic.....          | 30               | 171              | 108              | (65)             | 244               | 78                | 213         |
| Foreign.....           | 106              | 157              | 61               | 50               | 374               | 382               | (2)         |
| Amoco (Worldwide)..... | 111              | (125)            | 246              | 83               | 315               | 648               | (51)        |
| Shell.....             | (21)             | 73               | 13               | 23               | 88                | 361               | (76)        |
| BP America.....        | 138              | 229              | 289              | (17)             | 639               | 587               | 9           |
| Arco.....              | 72               | 175              | 138              | 54               | 439               | 291               | 51          |
| Phillips.....          | 36               | 73               | 51               | 15               | 175               | 176               | —           |
| Conoco.....            | 81               | 135              | 184              | 162              | 562               | 303               | 85          |
| Sun.....               | 29               | 131              | 26               | (15)             | 155               | 212               | (27)        |
| Marathon.....          | 77               | 263              | 142              | 69               | 551               | 405               | 36          |

# Oil Company Rankings by Marketers With

(In billions of dollars)

| Company                         | Assets (a)    |               |        |        |        |        |
|---------------------------------|---------------|---------------|--------|--------|--------|--------|
|                                 | 1990          | 1989          | 1988   | 1987   | 1986   | 1985   |
| <b>Exxon</b> .....              | <b>87,707</b> | 83,219        | 74,293 | 74,042 | 69,484 | 69,160 |
| <b>Mobil</b> .....              | <b>41,665</b> | 39,080        | 38,820 | 40,272 | 39,412 | 41,752 |
| <b>Chevron</b> .....            | <b>35,089</b> | 33,884        | 33,968 | 34,101 | 34,853 | 38,869 |
| <b>Amoco</b> .....              | <b>32,209</b> | 30,430        | 29,919 | 25,122 | 27,706 | 25,198 |
| <b>Shell</b> .....              | <b>28,496</b> | 27,599        | 27,169 | 17,571 | 26,214 | 26,528 |
| <b>Texaco</b> .....             | <b>25,975</b> | 25,636        | 26,337 | 33,773 | 34,940 | 37,703 |
| <b>Arco</b> .....               | <b>23,864</b> | 22,161        | 25,514 | 22,890 | 21,604 | 20,279 |
| <b>BP America</b> .....         | <b>21,695</b> | 18,420        | 22,452 | 22,807 | 20,169 | 18,330 |
| <b>Phillips</b> .....           | <b>12,130</b> | 11,256        | 11,968 | 12,111 | 12,403 | 10,045 |
| <b>Conoco</b> .....             | <b>11,640</b> | 10,392        | 9,745  | 9,146  | 9,073  | 14,155 |
| <b>Marathon</b> .....           | <b>11,332</b> | <b>11,529</b> | 8,966  | 9,091  | 11,022 | 10,074 |
| <b>Unocal</b> .....             | <b>9,762</b>  | 9,257         | 9,508  | 10,062 | 10,246 | 10,797 |
| <b>Coastal</b> .....            | <b>9,230</b>  | 8,773         | 7,865  | 7,889  | 7,887  | 8,258  |
| <b>Amerada Hess</b> .....       | <b>9,057</b>  | 8,867         | 5,372  | 5,305  | 4,914  | 6,219  |
| <b>Sun</b> .....                | <b>9,000</b>  | 8,699         | 8,616  | 12,580 | 12,396 | 12,923 |
| <b>Pennzoil</b> .....           | <b>5,261</b>  | 4,882         | 4,880  | 2,805  | 3,369  | 3,300  |
| <b>Ashland</b> .....            | <b>5,118</b>  | 4,456         | 4,254  | 4,074  | 3,805  | 3,928  |
| <b>Kerr-McGee</b> .....         | <b>3,483</b>  | 3,236         | 3,123  | 3,132  | 3,090  | 3,702  |
| <b>American Petrofina</b> ..... | <b>2,846</b>  | 2,505         | 2,356  | 1,836  | 1,777  | 1,817  |
| <b>Citgo</b> .....              | <b>2,334</b>  | 1,587         | 1,343  | 1,191  | 1,209  | 1,274  |
| <b>Murphy</b> .....             | <b>2,137</b>  | <b>2,750</b>  | 2,068  | 2,067  | 1,980  | 2,661  |
| <b>Total Petroleum</b> .....    | <b>1,160</b>  | <b>1,250</b>  | N/A    | N/A    | N/A    | N/A    |
| <b>Diamond-Shamrock*</b> .....  | <b>1,134</b>  | 1,027         | 843    | N/A    | N/A    | N/A    |

\*This is the new Diamond-Shamrock Refining and Marketing Co.

(a) Boldface totals indicate peak years of individual companies in recent years; for other companies, see table below.

Source: Annual Reports of oil companies and other company data.

## Assets — Peak Years vs. 1990

(In billions of dollars)

| Company                         | Peak Year | Peak Year Total | 1990 Total | % Change '90 vs. Peak |
|---------------------------------|-----------|-----------------|------------|-----------------------|
| <b>Exxon</b> .....              | 1990      | \$87,707        | \$87,707   | 0.0                   |
| <b>Mobil</b> .....              | 1984      | 41,851          | 41,665     | 0.0                   |
| <b>Chevron</b> .....            | 1984      | 45,404          | 35,089     | (22.7)                |
| <b>Amoco</b> .....              | 1990      | 32,209          | 32,209     | 0.0                   |
| <b>Shell</b> .....              | 1990      | 28,496          | 28,496     | 0.0                   |
| <b>Texaco</b> .....             | 1984      | 37,774          | 25,975     | (31.2)                |
| <b>Arco</b> .....               | 1983      | 23,282          | 23,864     | 0.0                   |
| <b>BP America</b> .....         | 1987      | 22,807          | 21,695     | (4.9)                 |
| <b>Phillips</b> .....           | 1984      | 16,955          | 12,130     | (28.5)                |
| <b>Conoco</b> .....             | 1985      | 14,155          | 11,640     | (17.8)                |
| <b>Marathon</b> .....           | 1989      | 11,529          | 11,332     | (1.7)                 |
| <b>Unocal</b> .....             | 1985      | 10,797          | 9,762      | (1.7)                 |
| <b>Coastal</b> .....            | 1990      | 9,230           | 9,230      | 0.0                   |
| <b>Amerada Hess</b> .....       | 1990      | 9,057           | 9,057      | 0.0                   |
| <b>Sun</b> .....                | 1985      | 12,923          | 9,000      | (30.4)                |
| <b>Pennzoil</b> .....           | 1990      | 5,261           | 5,261      | 0.0                   |
| <b>Ashland</b> .....            | 1990      | 5,118           | 5,118      | 0.0                   |
| <b>Kerr-McGee</b> .....         | 1983      | 3,806           | 3,473      | (8.7)                 |
| <b>American Petrofina</b> ..... | 1990      | 2,846           | 2,846      | 0.0                   |
| <b>Citgo</b> .....              | 1990      | 2,334           | 2,334      | 0.0                   |
| <b>Murphy</b> .....             | 1982      | 2,990           | 2,137      | (28.5)                |
| <b>Total Petroleum</b> .....    | 1989      | 1,250           | 1,160      | (7.2)                 |
| <b>Diamond-Shamrock</b> .....   | 1990      | 1,134           | 1,134      | 0.0                   |

Source: Annual Reports of oil companies and other oil company data.

## Assets of \$1-Billion or More

| % Change    |             |             |             | Ranking by Year |      |      |      |      |
|-------------|-------------|-------------|-------------|-----------------|------|------|------|------|
| '90 vs. '89 | '89 vs. '88 | '88 vs. '87 | '87 vs. '86 | 1990            | 1989 | 1988 | 1987 | 1986 |
| 5.4%        | 12.0%       | 0.3%        | 6.6%        | 1               | 1    | 1    | 1    | 1    |
| 6.6         | 0.7         | (3.6)       | 2.2         | 2               | 2    | 2    | 2    | 2    |
| 3.6         | 0.1         | (0.4)       | (2.2)       | 3               | 3    | 3    | 3    | 4    |
| 5.8         | 1.7         | 19.1        | 6.0         | 4               | 4    | 4    | 6    | 5    |
| 3.3         | 1.6         | (1.5)       | 5.2         | 5               | 5    | 5    | 5    | 6    |
| 1.3         | 2.7         | (22.0)      | (3.3)       | 6               | 6    | 6    | 4    | 3    |
| 7.7         | 0.4         | (6.0)       | 6.5         | 7               | 7    | 7    | 7    | 7    |
| 17.8        | 3.0         | 1.6         | 13.1        | 8               | 8    | 8    | 8    | 8    |
| 7.8         | (5.9)       | (1.2)       | (2.4)       | 9               | 9    | 9    | 11   | 11   |
| 12.0        | 6.2         | 6.5         | (29.6)      | 10              | 10   | 10   | 13   | 10   |
| (1.7)       | 3.1         | (1.4)       | (17.5)      | 11              | 12   | 12   | 14   | 13   |
| 5.4         | (2.0)       | (5.5)       | (1.8)       | 12              | 11   | 11   | 12   | 14   |
| 5.2         | 11.4        | (1.6)       | 1.3         | 13              | 13   | 14   | 15   | 15   |
| 31.9        | 27.8        | 1.3         | 8.0         | 14              | 15   | 15   | 16   | 16   |
| 3.5         | 1.0         | (31.5)      | 1.5         | 15              | 14   | 13   | 10   | 12   |
| 7.8         | N/A         | 59.7        | (16.7)      | 16              | 16   | 16   | 19   | 19   |
| 12.3        | 4.8         | 4.4         | 7.1         | 17              | 17   | 17   | 17   | 17   |
| 7.3         | 6.7         | (0.3)       | 1.4         | 18              | 18   | 18   | 18   | 20   |
| 13.6        | 6.3         | 28.3        | 3.3         | 19              | 20   | 19   | 21   | 22   |
| 47.1        | 18.2        | 12.8        | (1.5)       | 20              | 21   | 21   | 22   | 23   |
| (22.3)      | 33.0        | 0.0         | 4.4         | 21              | 19   | 20   | 20   | 21   |
| (7.2)       | N/A         | N/A         | N/A         | 22              | 22   | 23   | —    | —    |
| 10.4        | 21.8        | N/A         | N/A         | 23              | 23   | 22   | —    | —    |

# Mystik



*Depend on our team for quality lubricants*

### Mystik and Kerr-McGee Lubricant Specialists.

Cato Oil and Grease Company is committed to supplying you with the highest quality lubricants, packaging and service available today.

If you are interested in becoming a member of our distributor team contact a Cato Marketing representative.

Plants Located In:  
Oklahoma City, OK 800-654-8470 Atlanta, GA 800-786-2286

**Cato Oil and Grease Company**  
405/278-8200 • Oklahoma City, OK 73138

*"We are the suppliers, not the competition."*





## TV Ad Spending Slows Down in 1990

Several of the individual company changes were pretty spectacular in 1990, but on the over-all, network and spot television advertising by the oil industry in 1990 barely topped the all-time highs set the year before.

Network TV was up a scant 9% while Spot TV—the larger of the two markets—was up only 4%. True, the two

totals exceeded \$205.8 million in 1990, but that was only \$5.8-million more in a field where millions are almost considered peanuts.

The Television Bureau of Advertising, which monitors the advertising expenditures of oil and other industries, generally considers the three big networks—ABC, CBS and NBC—the

Network Segment and Spot TV as the regional commercials and sponsored programs.

Biggest spending increases in network and spot TV last year were Shell, up 3,000-plus percent in Network time, and Quaker State, also up 3,000-plus percent in Spot TV. TV usually gets about 75% of advertising dollars spent by oil companies.

### Spot TV Spending

(Add 000)

| Company            | 1990             | 1989             | % Change  |
|--------------------|------------------|------------------|-----------|
| Chevron            | 19,699           | 16,744           | 18%       |
| Exxon              | 15,175           | 16,776           | (10)      |
| Mobil              | 13,519           | 13,587           | (1)       |
| Amoco              | 13,040           | 14,672           | (11)      |
| Texaco             | 12,566           | 23,428           | (46)      |
| Pennzoil           | 11,946           | 4,017            | 197       |
| Unocal             | 11,715           | 10,040           | 17        |
| Atlantic Richfield | 8,822            | 3,501            | 152       |
| Burmah (Castrol)   | 8,616            | 6,342            | 36        |
| Shell              | 8,589            | 16,317           | (47)      |
| Sun                | 8,299            | 7,084            | 17        |
| British Petroleum  | 7,743            | 8,864            | (11)      |
| Amerada Hess       | 4,873            | 1,450            | 236       |
| Ashland            | 4,542            | 6,611            | (31)      |
| Quaker State       | 3,963            | 115              | 3,346     |
| Citgo              | 3,775            | 4,536            | (17)      |
| Phillips           | 3,440            | 2,056            | 67        |
| Conoco             | 2,720            | 2,733            | —         |
| American Petrofina | 2,407            | 1,290            | 87        |
| Marathon           | 1,369            | 1,205            | 14        |
| <b>Total</b>       | <b>\$166,818</b> | <b>\$161,168</b> | <b>4%</b> |

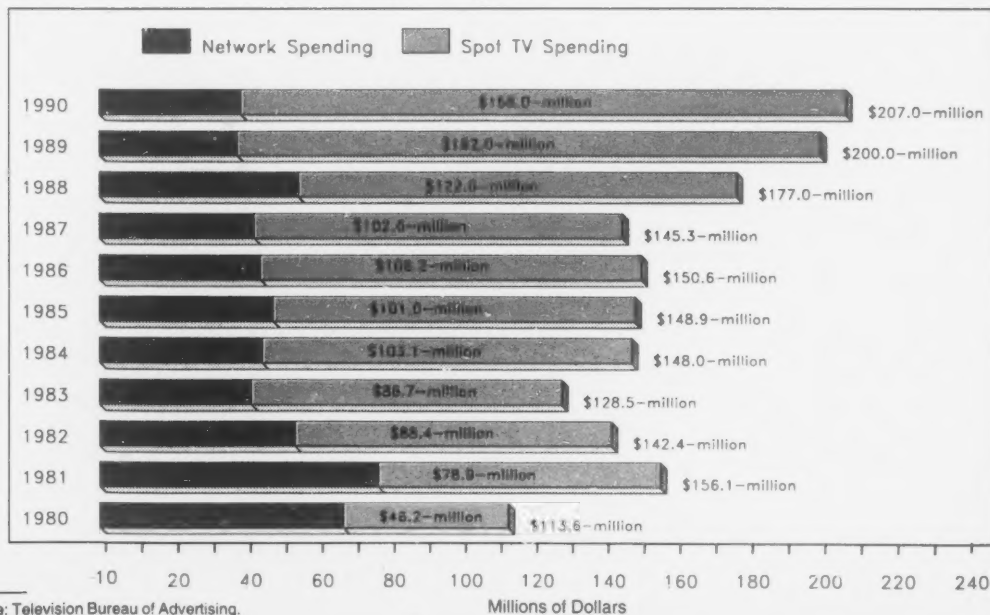
### Network TV Spending

(Add 000)

| Company            | 1990            | 1989            | % Change  |
|--------------------|-----------------|-----------------|-----------|
| Ashland            | \$8,559         | \$8,692         | (2%)      |
| Burmah (Castrol)   | 7,186           | 8,423           | (15)      |
| Texaco             | 6,574           | 1,498           | 399       |
| Shell              | 6,121           | 155             | 3,849     |
| British Petroleum  | 3,863           | 2,182           | 77        |
| Mobil              | 2,044           | 2,641           | (23)      |
| Conoco             | 1,624           | —               | —         |
| Pennzoil           | 1,060           | 6,489           | (84)      |
| Quaker State       | 893             | 4,614           | (81)      |
| Ford (Motor Craft) | 800             | —               | —         |
| Marathon           | 138             | —               | —         |
| Unocal             | 122             | 1,053           | (88)      |
| First Brands (STP) | 52              | —               | —         |
| <b>Total</b>       | <b>\$39,036</b> | <b>\$35,747</b> | <b>9%</b> |

Source: Television Bureau of Advertising, New York, from Arbitron Data 1990

### Trends in Oil's TV Advertising Budgets



# Current Automotive Registrations

| State              | Automobiles        |                    |            | Trucks and Buses   |                   |            | All Motor Vehicles |                    |            | Motorcycles<br>Estimated<br>1990 |
|--------------------|--------------------|--------------------|------------|--------------------|-------------------|------------|--------------------|--------------------|------------|----------------------------------|
|                    | Registered<br>1989 | Estimated<br>1990  | %<br>Chng. | Registered<br>1989 | Estimated<br>1990 | %<br>Chng. | Registered<br>1989 | Estimated<br>1990  | %<br>Chng. |                                  |
| Alabama.....       | 2,670,443          | 2,720,000          | 1.9        | 952,761            | 963,000           | 1.1        | 3,623,204          | 3,683,000          | 1.7        | 44,000                           |
| Alaska.....        | 230,608            | 233,000            | 1.0        | 133,135            | 135,000           | 1.4        | 363,743            | 368,000            | 1.2        | 8,000                            |
| Arizona.....       | 1,958,341          | 2,014,000          | 2.8        | 816,929            | 837,000           | 2.5        | 2,775,270          | 2,851,000          | 2.7        | 80,000                           |
| Arkansas.....      | 924,063            | 929,000            | 0.5        | 509,005            | 519,000           | 2.0        | 1,433,068          | 1,448,000          | 1.0        | 14,000                           |
| California.....    | 16,718,380         | 17,103,000         | 2.3        | 4,952,753          | 5,073,000         | 2.4        | 21,671,133         | 22,176,000         | 2.3        | 627,000                          |
| Colorado.....      | 2,289,827          | 2,355,000          | 2.8        | 864,011            | 889,000           | 2.9        | 3,153,838          | 3,244,000          | 2.9        | 113,000                          |
| Connecticut.....   | 2,492,238          | 2,514,000          | 0.9        | 158,905            | 158,000           | -0.6       | 2,651,143          | 2,672,000          | 0.8        | 50,000                           |
| Delaware.....      | 402,666            | 408,000            | 1.3        | 118,925            | 123,000           | 3.4        | 521,591            | 531,000            | 1.8        | 8,000                            |
| Dist. of Col.....  | 242,228            | 238,000            | -1.7       | 16,706             | 16,000            | -4.2       | 258,934            | 254,000            | -1.9       | 3,000                            |
| Florida.....       | 8,972,724          | 9,239,000          | 3.0        | 2,234,180          | 2,293,000         | 2.6        | 11,206,904         | 11,532,000         | 2.9        | 206,000                          |
| Georgia.....       | 3,711,699          | 3,767,000          | 1.5        | 1,558,788          | 1,611,000         | 3.3        | 5,270,487          | 5,378,000          | 2.0        | 67,000                           |
| Hawaii.....        | 641,204            | 661,000            | 3.1        | 95,189             | 99,000            | 4.0        | 736,393            | 760,000            | 3.2        | 19,000                           |
| Idaho.....         | 616,496            | 631,000            | 2.4        | 422,549            | 403,000           | -4.6       | 1,039,045          | 1,034,000          | -0.5       | 42,000                           |
| Illinois.....      | 6,436,253          | 6,487,000          | 0.8        | 1,585,442          | 1,636,000         | 3.2        | 8,021,695          | 8,123,000          | 1.3        | 223,000                          |
| Indiana.....       | 3,176,080          | 3,222,000          | 1.4        | 1,146,222          | 1,192,000         | 4.0        | 4,322,302          | 4,414,000          | 2.1        | 93,000                           |
| Iowa.....          | 1,845,275          | 1,866,000          | 1.1        | 737,995            | 733,000           | -0.7       | 2,583,270          | 2,599,000          | 0.6        | 174,000                          |
| Kansas.....        | 1,390,764          | 1,401,000          | 0.7        | 595,883            | 601,000           | 0.9        | 1,986,647          | 2,002,000          | 0.8        | 70,000                           |
| Kentucky.....      | 1,881,057          | 1,902,000          | 1.1        | 961,976            | 988,000           | 2.7        | 2,843,033          | 2,890,000          | 1.7        | 32,000                           |
| Louisiana.....     | 1,986,561          | 2,002,000          | 0.8        | 989,536            | 1,011,000         | 2.2        | 2,976,097          | 3,013,000          | 1.2        | 30,000                           |
| Maine.....         | 717,581            | 732,000            | 2.0        | 221,720            | 214,000           | -3.5       | 939,301            | 946,000            | 0.7        | 39,000                           |
| Maryland.....      | 2,901,912          | 2,942,000          | 1.4        | 625,515            | 638,000           | 2.0        | 3,527,427          | 3,580,000          | 1.5        | 55,000                           |
| Massachusetts....  | 3,305,207          | 3,286,000          | -0.6       | 499,251            | 501,000           | 0.4        | 3,804,458          | 3,787,000          | -0.5       | 53,000                           |
| Michigan.....      | 5,576,753          | 5,628,000          | 0.9        | 1,561,830          | 1,582,000         | 1.3        | 7,138,583          | 7,210,000          | 1.0        | 175,000                          |
| Minnesota.....     | 2,567,455          | 2,617,000          | 1.9        | 715,837            | 724,000           | 1.1        | 3,283,292          | 3,341,000          | 1.8        | 112,000                          |
| Mississippi.....   | 1,427,136          | 1,452,000          | 1.7        | 439,945            | 450,000           | 2.3        | 1,867,081          | 1,902,000          | 1.9        | 27,000                           |
| Missouri.....      | 2,725,908          | 2,741,000          | 0.6        | 1,118,074          | 1,149,000         | 2.8        | 3,843,982          | 3,890,000          | 1.2        | 59,000                           |
| Montana.....       | 441,264            | 452,000            | 2.4        | 299,933            | 306,000           | 2.0        | 741,194            | 758,000            | 2.3        | 27,000                           |
| Nebraska.....      | 896,340            | 913,000            | 1.9        | 465,384            | 474,000           | 1.9        | 1,361,724          | 1,387,000          | 1.9        | 22,000                           |
| Nevada.....        | 580,872            | 591,000            | 1.7        | 244,851            | 256,000           | 4.6        | 825,723            | 847,000            | 2.6        | 17,000                           |
| New Hampshire....  | 739,347            | 754,000            | 2.0        | 196,295            | 201,000           | 2.4        | 935,642            | 955,000            | 2.1        | 36,000                           |
| New Jersey.....    | 5,154,365          | 5,130,000          | -0.5       | 481,965            | 463,000           | -3.9       | 5,636,330          | 5,593,000          | -0.8       | 84,000                           |
| New Mexico.....    | 805,599            | 820,000            | 1.8        | 488,922            | 499,000           | 2.1        | 1,294,521          | 1,319,000          | 1.9        | 34,000                           |
| New York.....      | 8,705,834          | 8,807,000          | 1.2        | 1,314,705          | 1,350,000         | 2.7        | 10,020,539         | 10,157,000         | 1.4        | 196,000                          |
| North Carolina.... | 3,646,514          | 3,712,000          | 1.8        | 1,466,710          | 1,514,000         | 3.2        | 5,113,224          | 5,226,000          | 2.2        | 54,000                           |
| North Dakota.....  | 374,458            | 370,000            | -1.2       | 261,737            | 259,000           | -1.0       | 636,195            | 629,000            | -1.1       | 20,000                           |
| Ohio.....          | 7,766,905          | 7,567,000          | -2.6       | 1,747,013          | 1,824,000         | 4.4        | 9,513,918          | 9,391,000          | -1.3       | 248,000                          |
| Oklahoma.....      | 1,668,691          | 1,679,000          | 0.6        | 899,763            | 913,000           | 1.5        | 2,568,454          | 2,592,000          | 0.9        | 57,000                           |
| Oregon.....        | 1,790,574          | 1,831,000          | 2.3        | 588,177            | 609,000           | 3.5        | 2,378,751          | 2,440,000          | 2.6        | 64,000                           |
| Pennsylvania.....  | 6,347,133          | 6,418,000          | 1.1        | 1,562,246          | 1,609,000         | 3.0        | 7,909,379          | 8,027,000          | 1.5        | 168,000                          |
| Rhode Island.....  | 555,665            | 554,000            | -0.3       | 114,911            | 115,000           | 0.1        | 670,576            | 669,000            | -0.2       | 29,000                           |
| South Carolina.... | 1,840,479          | 1,895,000          | 3.0        | 628,461            | 660,000           | 5.0        | 2,468,940          | 2,555,000          | 3.5        | 30,000                           |
| South Dakota.....  | 417,105            | 425,000            | 1.9        | 288,281            | 297,000           | 3.0        | 705,386            | 722,000            | 2.4        | 29,000                           |
| Tennessee.....     | 3,451,763          | 3,533,000          | 2.4        | 863,939            | 876,000           | 1.4        | 4,315,702          | 4,409,000          | 2.2        | 83,000                           |
| Texas.....         | 8,561,270          | 8,649,000          | 1.0        | 4,003,285          | 4,059,000         | 1.4        | 12,564,555         | 12,708,000         | 1.1        | 175,000                          |
| Utah.....          | 796,102            | 806,000            | 1.2        | 378,759            | 385,000           | 1.6        | 1,174,861          | 1,191,000          | 1.4        | 26,000                           |
| Vermont.....       | 341,377            | 348,000            | 1.9        | 120,227            | 122,000           | 1.5        | 461,604            | 470,000            | 1.8        | 18,000                           |
| Virginia.....      | 3,736,193          | 3,807,000          | 1.9        | 1,123,535          | 1,175,000         | 4.5        | 4,859,728          | 4,982,000          | 2.5        | 57,000                           |
| Washington.....    | 2,876,438          | 3,002,000          | 4.4        | 1,213,692          | 1,289,000         | 6.2        | 4,090,130          | 4,291,000          | 4.9        | 126,000                          |
| West Virginia..... | 822,395            | 823,000            | 0.1        | 391,555            | 399,000           | 1.9        | 1,213,950          | 1,222,000          | 0.7        | 17,000                           |
| Wisconsin.....     | 2,669,060          | 2,744,000          | 2.8        | 801,948            | 823,000           | 2.6        | 3,471,008          | 3,567,000          | 2.8        | 216,000                          |
| Wyoming.....       | 286,841            | 290,000            | 1.1        | 199,748            | 203,000           | 1.6        | 486,589            | 493,000            | 1.3        | 18,000                           |
| <b>Total.....</b>  | <b>143,081,443</b> | <b>145,010,000</b> | <b>1.3</b> | <b>44,179,104</b>  | <b>45,218,000</b> | <b>2.4</b> | <b>187,260,547</b> | <b>190,228,000</b> | <b>1.6</b> | <b>4,274,000</b>                 |

Source: Federal Highway Administration, Table SS89-4, Selected Highway Statistics, published October 1990.

# Estimated Licensed Drivers, by Sex and States, 1989 and 1990

(Add 000)

| State                          | 1989 (Actual) |            |             |                | 1990 (Estimated) |        |         | % Change — Total Drivers |              |
|--------------------------------|---------------|------------|-------------|----------------|------------------|--------|---------|--------------------------|--------------|
|                                | Male          | Female     | Total       | % Male Drivers | Male             | Female | Total   | 1990 vs 1989             | 1989 vs 1988 |
| Alabama.....                   | 1,447,324     | 1,396,263  | 2,843,587   | 50.90          | 1,459            | 1,407  | 2,866   | 0.8                      | 0.8          |
| Alaska.....                    | 164,852       | 135,148    | 300,000     | 54.95          | 166              | 136    | 302     | 0.7                      | 0.7          |
| Arizona.....                   | 1,216,510     | 1,155,078  | 2,371,588   | 51.30          | 1,242            | 1,179  | 2,421   | 2.1                      | 2.1          |
| Arkansas.....                  | 881,121       | 829,832    | 1,710,953   | 51.50          | 891              | 839    | 1,730   | 1.1                      | 1.1          |
| California.....                | 10,334,786    | 9,224,949  | 19,569,735  | 52.86          | 10,551           | 9,408  | 19,959  | 2.0                      | 2.0          |
| Colorado.....                  | 1,130,751     | 985,175    | 2,115,926   | 53.44          | 1,140            | 993    | 2,133   | 0.8                      | 0.8          |
| Connecticut.....               | 1,213,770     | 1,160,047  | 2,373,817   | 51.13          | 1,225            | 1,170  | 2,395   | 0.9                      | 0.9          |
| Delaware.....                  | 236,927       | 241,695    | 480,622     | 49.71          | 242              | 245    | 487     | 1.3                      | 1.3          |
| Dist. of Col.....              | 215,992       | 178,352    | 394,344     | 54.77          | 217              | 180    | 397     | 0.7                      | 0.6          |
| Florida.....                   | 4,780,965     | 4,225,284  | 9,006,249   | 53.08          | 4,891            | 4,322  | 9,213   | 2.3                      | 2.3          |
| Georgia.....                   | 2,181,110     | 2,136,456  | 4,317,566   | 50.52          | 2,246            | 2,201  | 4,447   | 3.0                      | 3.0          |
| Hawaii.....                    | 355,586       | 301,570    | 657,156     | 54.11          | 359              | 305    | 664     | 1.0                      | 1.1          |
| Idaho.....                     | 366,506       | 339,966    | 706,472     | 51.88          | 372              | 345    | 717     | 1.5                      | 1.5          |
| Illinois.....                  | 3,676,082     | 3,529,074  | 7,205,156   | 51.02          | 3,713            | 3,564  | 7,277   | 1.0                      | 1.0          |
| Indiana.....                   | 1,969,140     | 1,868,890  | 3,868,030   | 51.31          | 1,980            | 1,880  | 3,860   | 0.6                      | 0.6          |
| Iowa.....                      | 928,475       | 993,154    | 1,921,629   | 48.32          | 942              | 1,008  | 1,950   | 1.5                      | 1.5          |
| Kansas.....                    | 844,956       | 858,842    | 1,703,798   | 49.59          | 858              | 873    | 1,731   | 1.6                      | 1.6          |
| Kentucky.....                  | 1,230,559     | 1,161,493  | 2,392,052   | 51.44          | 1,246            | 1,177  | 2,423   | 1.3                      | 1.3          |
| Louisiana.....                 | 1,295,599     | 1,278,355  | 2,573,954   | 50.33          | 1,300            | 1,282  | 2,582   | 0.3                      | 0.3          |
| Maine.....                     | 442,055       | 444,857    | 886,912     | 49.84          | 448              | 451    | 899     | 1.4                      | 1.4          |
| Maryland.....                  | 1,572,255     | 1,525,660  | 3,097,915   | 50.75          | 1,605            | 1,558  | 3,163   | 2.1                      | 2.1          |
| Massachusetts.....             | 2,184,474     | 2,073,368  | 4,257,842   | 51.30          | 2,228            | 2,115  | 4,343   | 2.0                      | 2.0          |
| Michigan.....                  | 3,220,385     | 3,201,646  | 6,422,031   | 50.15          | 3,227            | 3,208  | 6,435   | 0.2                      | 0.2          |
| Minnesota.....                 | 1,249,217     | 1,180,034  | 2,429,251   | 51.42          | 1,254            | 1,185  | 2,439   | 0.4                      | 0.4          |
| Mississippi.....               | 938,863       | 902,977    | 1,841,840   | 50.97          | 955              | 919    | 1,874   | 1.7                      | 1.7          |
| Missouri.....                  | 1,785,909     | 1,750,775  | 3,536,684   | 50.50          | 1,806            | 1,770  | 3,576   | 1.1                      | 1.1          |
| Montana.....                   | 327,623       | 270,015    | 597,638     | 54.82          | 328              | 271    | 599     | 0.2                      | 0.3          |
| Nebraska.....                  | 536,296       | 528,500    | 1,064,796   | 50.37          | 544              | 537    | 1,081   | 1.5                      | 1.5          |
| Nevada.....                    | 416,623       | 377,444    | 794,067     | 52.47          | 426              | 386    | 812     | 2.3                      | 2.3          |
| New Hampshire.....             | 407,763       | 401,626    | 809,389     | 50.38          | 414              | 408    | 822     | 1.6                      | 1.6          |
| New Jersey.....                | 2,954,951     | 2,660,151  | 5,615,102   | 52.63          | 2,993            | 2,695  | 5,688   | 1.3                      | 1.3          |
| New Mexico.....                | 552,659       | 510,147    | 1,062,806   | 52.00          | 558              | 516    | 1,073   | 1.0                      | 1.0          |
| New York.....                  | 5,452,089     | 4,725,906  | 10,177,995  | 53.57          | 5,512            | 4,778  | 10,290  | 1.1                      | 1.1          |
| North Carolina.....            | 2,251,910     | 2,232,197  | 4,484,107   | 50.22          | 2,297            | 2,276  | 4,573   | 2.0                      | 2.0          |
| North Dakota.....              | 215,949       | 209,253    | 425,202     | 50.79          | 216              | 210    | 426     | 0.2                      | 0.1          |
| Ohio.....                      | 3,741,111     | 3,628,710  | 7,369,821   | 50.76          | 3,749            | 3,636  | 7,385   | 0.2                      | 0.2          |
| Oklahoma.....                  | 1,147,048     | 1,145,819  | 2,292,867   | 50.03          | 1,165            | 1,164  | 2,329   | 1.6                      | 1.6          |
| Oregon.....                    | 1,147,538     | 1,042,116  | 2,189,654   | 52.41          | 1,161            | 1,055  | 2,216   | 1.2                      | 1.2          |
| Pennsylvania.....              | 4,062,957     | 3,733,658  | 7,796,615   | 52.11          | 4,088            | 3,756  | 7,844   | 0.6                      | 0.6          |
| Rhode Island.....              | 340,811       | 334,890    | 675,701     | 50.44          | 350              | 343    | 693     | 2.6                      | 2.7          |
| South Carolina.....            | 1,173,190     | 1,165,470  | 2,338,660   | 50.17          | 1,195            | 1,188  | 2,383   | 1.9                      | 1.9          |
| South Dakota.....              | 251,058       | 241,408    | 492,466     | 50.98          | 251              | 242    | 493     | 0.1                      | 0.1          |
| Tennessee.....                 | 1,703,265     | 1,728,754  | 3,432,019   | 49.63          | 1,726            | 1,751  | 3,477   | 1.3                      | 1.3          |
| Texas.....                     | 5,726,226     | 5,377,285  | 11,103,511  | 51.57          | 5,743            | 5,394  | 11,137  | 0.3                      | 0.3          |
| Utah.....                      | 515,215       | 512,148    | 1,027,363   | 50.15          | 522              | 519    | 1,041   | 1.3                      | 1.3          |
| Vermont.....                   | 212,038       | 197,859    | 409,897     | 51.73          | 214              | 200    | 414     | 1.0                      | 1.2          |
| Virginia.....                  | 2,141,429     | 2,092,145  | 4,233,574   | 50.58          | 2,180            | 2,130  | 4,310   | 1.8                      | 1.8          |
| Washington.....                | 1,674,385     | 1,598,556  | 3,272,941   | 51.16          | 1,698            | 1,621  | 3,319   | 1.4                      | 1.4          |
| West Virginia.....             | 686,949       | 619,496    | 1,306,445   | 52.58          | 690              | 622    | 1,312   | 0.4                      | 0.4          |
| Wisconsin.....                 | 1,688,901     | 1,605,156  | 3,294,057   | 51.27          | 1,699            | 1,615  | 3,314   | 0.6                      | 0.6          |
| Wyoming.....                   | 174,269       | 159,224    | 333,493     | 52.26          | 178              | 163    | 341     | 2.3                      | 2.3          |
| Total.....                     | 85,378,422    | 80,176,873 | 165,555,295 | 51.57          | 86,460           | 81,195 | 167,655 | 1.3                      | 1.3          |
| Percent Change From Prior Year | 1.5           | 1.9        | 1.7         | —              | —                | —      | —       | —                        | —            |

Source: Federal Highway Administration, Table SS89-6, Selected Highway Statistics, published October 1990.

# 1989 Relationships by Population, Drivers

| State               | Resident<br>Population<br>(1,000) | Licensed<br>Drivers<br>per 1,000<br>Resident<br>Population | Registered<br>Motor Vehicles<br>per 1,000<br>Resident<br>Population | Gal. of<br>Fuel per<br>Vehicle | Miles<br>per Gallon | Annual<br>Miles per<br>Vehicle | Vehicle<br>Miles per<br>Licensed<br>Driver |
|---------------------|-----------------------------------|------------------------------------------------------------|---------------------------------------------------------------------|--------------------------------|---------------------|--------------------------------|--------------------------------------------|
| Alabama.....        | 4,118                             | 691                                                        | 880                                                                 | 718                            | 15.66               | 11,251                         | 14,336                                     |
| Alaska.....         | 527                               | 569                                                        | 690                                                                 | 716                            | 14.91               | 10,686                         | 12,957                                     |
| Arizona.....        | 3,556                             | 667                                                        | 780                                                                 | 730                            | 17.19               | 12,545                         | 14,680                                     |
| Arkansas.....       | 2,406                             | 711                                                        | 596                                                                 | 1,121                          | 12.70               | 14,245                         | 11,931                                     |
| California.....     | 29,063                            | 673                                                        | 746                                                                 | 688                            | 16.85               | 11,604                         | 12,851                                     |
| Colorado.....       | 3,317                             | 638                                                        | 951                                                                 | 528                            | 16.55               | 8,744                          | 13,033                                     |
| Connecticut.....    | 3,239                             | 733                                                        | 819                                                                 | 600                            | 16.47               | 9,876                          | 11,030                                     |
| Delaware.....       | 673                               | 714                                                        | 775                                                                 | 747                            | 16.54               | 12,358                         | 13,412                                     |
| Dist. of Col.....   | 604                               | 653                                                        | 429                                                                 | 764                            | 17.26               | 13,185                         | 8,657                                      |
| Florida.....        | 12,671                            | 711                                                        | 884                                                                 | 596                            | 16.30               | 9,715                          | 12,089                                     |
| Georgia.....        | 6,436                             | 671                                                        | 819                                                                 | 818                            | 17.55               | 14,364                         | 17,534                                     |
| Hawaii.....         | 1,112                             | 591                                                        | 662                                                                 | 527                            | 19.97               | 10,524                         | 11,793                                     |
| Idaho.....          | 1,014                             | 697                                                        | 1,025                                                               | 542                            | 14.95               | 8,106                          | 11,921                                     |
| Illinois.....       | 11,658                            | 618                                                        | 688                                                                 | 736                            | 13.77               | 10,135                         | 11,283                                     |
| Indiana.....        | 5,593                             | 686                                                        | 773                                                                 | 765                            | 16.99               | 13,000                         | 14,641                                     |
| Iowa.....           | 2,840                             | 677                                                        | 910                                                                 | 645                            | 13.54               | 8,737                          | 11,746                                     |
| Kansas.....         | 2,513                             | 678                                                        | 791                                                                 | 772                            | 14.28               | 11,030                         | 12,861                                     |
| Kentucky.....       | 3,727                             | 642                                                        | 763                                                                 | 812                            | 13.94               | 11,314                         | 13,447                                     |
| Louisiana.....      | 4,382                             | 587                                                        | 679                                                                 | 769                            | 16.58               | 12,740                         | 14,730                                     |
| Maine.....          | 1,222                             | 726                                                        | 769                                                                 | 746                            | 16.75               | 12,498                         | 13,236                                     |
| Maryland.....       | 4,694                             | 660                                                        | 751                                                                 | 686                            | 16.09               | 11,034                         | 12,564                                     |
| Massachusetts.....  | 5,913                             | 720                                                        | 643                                                                 | 703                            | 17.27               | 12,147                         | 10,854                                     |
| Michigan.....       | 9,273                             | 693                                                        | 770                                                                 | 661                            | 16.92               | 11,191                         | 12,440                                     |
| Minnesota.....      | 4,353                             | 558                                                        | 754                                                                 | 697                            | 16.33               | 11,389                         | 15,393                                     |
| Mississippi.....    | 2,621                             | 703                                                        | 712                                                                 | 810                            | 15.13               | 12,262                         | 12,431                                     |
| Missouri.....       | 5,159                             | 686                                                        | 745                                                                 | 861                            | 14.54               | 12,510                         | 13,597                                     |
| Montana.....        | 806                               | 741                                                        | 920                                                                 | 714                            | 15.59               | 11,131                         | 13,804                                     |
| Nebraska.....       | 1,611                             | 661                                                        | 845                                                                 | 693                            | 14.61               | 10,120                         | 12,942                                     |
| Nevada.....         | 1,111                             | 715                                                        | 743                                                                 | 896                            | 12.71               | 11,394                         | 11,848                                     |
| New Hampshire.....  | 1,107                             | 731                                                        | 845                                                                 | 614                            | 17.09               | 10,494                         | 12,131                                     |
| New Jersey.....     | 7,336                             | 765                                                        | 768                                                                 | 683                            | 15.57               | 10,627                         | 10,667                                     |
| New Mexico.....     | 1,528                             | 696                                                        | 847                                                                 | 767                            | 15.95               | 12,235                         | 14,903                                     |
| New York.....       | 17,950                            | 567                                                        | 558                                                                 | 624                            | 16.96               | 10,584                         | 10,420                                     |
| North Carolina..... | 6,571                             | 682                                                        | 778                                                                 | 751                            | 15.86               | 11,906                         | 13,576                                     |
| North Dakota.....   | 660                               | 644                                                        | 964                                                                 | 649                            | 14.18               | 9,194                          | 13,756                                     |
| Ohio.....           | 10,907                            | 676                                                        | 872                                                                 | 611                            | 14.53               | 8,873                          | 11,455                                     |
| Oklahoma.....       | 3,224                             | 711                                                        | 797                                                                 | 772                            | 16.55               | 12,784                         | 14,321                                     |
| Oregon.....         | 2,820                             | 776                                                        | 844                                                                 | 687                            | 15.81               | 10,854                         | 11,792                                     |
| Pennsylvania.....   | 12,040                            | 648                                                        | 657                                                                 | 693                            | 15.30               | 10,602                         | 10,755                                     |
| Rhode Island.....   | 998                               | 677                                                        | 672                                                                 | 626                            | 16.06               | 10,051                         | 9,975                                      |
| South Carolina..... | 3,512                             | 666                                                        | 703                                                                 | 828                            | 16.04               | 13,277                         | 14,017                                     |
| South Dakota.....   | 715                               | 689                                                        | 987                                                                 | 642                            | 14.80               | 9,504                          | 13,613                                     |
| Tennessee.....      | 4,940                             | 695                                                        | 874                                                                 | 715                            | 14.79               | 10,575                         | 13,298                                     |
| Texas.....          | 16,991                            | 653                                                        | 739                                                                 | 777                            | 16.34               | 12,695                         | 14,366                                     |
| Utah.....           | 1,707                             | 602                                                        | 688                                                                 | 724                            | 16.37               | 11,844                         | 13,544                                     |
| Vermont.....        | 567                               | 723                                                        | 814                                                                 | 687                            | 18.17               | 12,489                         | 14,065                                     |
| Virginia.....       | 6,098                             | 694                                                        | 797                                                                 | 726                            | 16.82               | 12,210                         | 14,016                                     |
| Washington.....     | 4,761                             | 687                                                        | 859                                                                 | 636                            | 16.61               | 10,570                         | 13,209                                     |
| West Virginia.....  | 1,857                             | 704                                                        | 654                                                                 | 812                            | 15.16               | 12,307                         | 11,436                                     |
| Wisconsin.....      | 4,867                             | 677                                                        | 713                                                                 | 712                            | 17.45               | 12,413                         | 13,080                                     |
| Wyoming.....        | 475                               | 702                                                        | 1,024                                                               | 962                            | 12.28               | 11,817                         | 17,242                                     |
| Total.....          | 247,843                           | 668                                                        | 756                                                                 | 704                            | 15.98               | 11,252                         | 12,727                                     |

Source: Federal Highway Administration, Table SS89-19, Selected Highway Statistics, published October 1990.



# Gasoline and Motor Oil Brand Names

| Gasoline                                                                                                                                                                                  | Motor Oil                                                                                                                                                                | Gasoline                                                                                   | Motor Oil                                                                            | Gasoline                                                                                                             | Motor Oil                                                                                                                     |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Ada Resources</b><br>Phillips (r,ur,up)<br>Conoco (r,ur,up)<br>Citgo (r,ur,up)                                                                                                         | Mobil Lubricants<br>Amoco Lubricants<br>Phillips Trop Artic<br>Phillips Super HD<br>Conoco High Performance Heavy Duty<br>Conoco Fleet<br>Unocal Guardol<br>Unocal Super | <b>Arcos</b><br>ARCO S3 Plus<br>ARCO Graphite III                                          |                                                                                      | <b>Cal Oil Products Corp.</b><br>Unocal (ur,up,usp)                                                                  | Unocal                                                                                                                        |
| <b>Agway Petroleum Corp.</b><br>Agway (r,ur,up,usp, d,pd)<br>Power Champ (r,ur,up)                                                                                                        | Agway<br>Agway Super Diesel<br>Agway Diesel<br>Agway Super Premium<br>Agway Premium<br>Agway Utility                                                                     | <b>Axtex Enterprises</b><br>Citgo (ur,Advantage Performer)                                 | Citgo                                                                                | <b>CENEX</b><br>Cenex (stay clean,ur, up,usp)                                                                        | Golden D<br>Super Lube 518<br>Super Lube XL<br>CENEX Hi-Tech.<br>CENEX TC-502                                                 |
| <b>American Petrofina, Inc.</b><br>Fina (r,ur,usp)                                                                                                                                        | Fina Ultra Supreme<br>Fina KAPPA XHD<br>Universal Plus<br>Fina Universal Plus                                                                                            | <b>Bagwell Oil Co., Inc.</b><br>Unocal 76<br>Chevron<br>BP                                 | Unocal 76<br>Chevron<br>BP                                                           | <b>Center Independent Oil Co.</b><br>Citgo                                                                           | Citgo<br>Castrol<br>Valvoline<br>Quaker State<br>Pennzoil<br>Wolf's Head                                                      |
| <b>Amoco Corp.</b><br>Amoco (r,ur with Ethanol, u Silver, u Ultimate)                                                                                                                     | Amoco-Amolube<br>Amoco 200<br>Amoco 300<br>Amoco 400<br>Amoco 21C<br>Amoco Turbo<br>Amoco LDO<br>Amoco Ultimate                                                          | <b>Bedford Valley Petroleum Corp.</b><br>Amoco (ur,up)<br>Chevron (ur,up)                  | Amoco<br>Chevron<br>Quaker State<br>Kendall<br>Pennzoil<br>Texaco                    | <b>Certified Oil Co.</b><br>(ur,up,usp)                                                                              | Certified                                                                                                                     |
| <b>Anchor Gasoline Corp.</b><br>Canal (r,ur,up)<br>Bayou (r,ur,up)                                                                                                                        | Sun                                                                                                                                                                      | <b>Beneto, Inc.</b><br>Exxon                                                               |                                                                                      | <b>Champlain Oil Co.</b><br>Citgo<br>Texaco<br>Gulf<br>BP                                                            | Citgo<br>Quaker State<br>BP<br>Castrol                                                                                        |
| <b>Arco Products Company</b><br>Arco (r,ur,usp)<br>EC-1, EC-p                                                                                                                             | Arco<br>Arco Fleet 69 Plus<br>Arco Supreme<br>Arco Graphite III                                                                                                          | <b>Bostick Brothers, Inc.</b><br>Citgo (r,ur,up)<br>Texaco (r,ur,up)                       | Conoco<br>Texaco<br>Shell                                                            | <b>Chapman Inc.</b><br>Texaco (r,ur,p,up,sp,usp)                                                                     |                                                                                                                               |
| <b>Arkansas Valley Petroleum</b><br>Superclean (ur,up,usp)<br>Sunoco (r,p,sp)<br>Economy (r)                                                                                              |                                                                                                                                                                          | <b>BP America Inc.</b><br>Sohio/Boron (ur,up,usp)<br>Gulf (r,ur,up)<br>BP (r,ur,up,usp)    | BP All Season<br>BP Premax<br>BP Nitrex Super Premium<br>Vanellus-Commercial Vehicle | <b>Charter Marketing Co.</b><br>Charter (r,ur,up)                                                                    |                                                                                                                               |
| <b>Truman Arnold Cos.</b><br>(unbranded)                                                                                                                                                  | Conoco<br>Citgo<br>Texaco                                                                                                                                                | <b>Bradley Petroleum Inc.</b><br>Sinclair (r,ur,up)<br>Bradley (r,ur,up)                   | Sinclair<br>Pennzoil<br>Quaker State                                                 | <b>Chevron Corp.</b><br>Chevron (r,ur,up,usp)                                                                        | Chevron Supreme<br>Chevron ATF Type F<br>Standard ATF Type F<br>Chevron Dexron II(ATF)<br>Chevron DELO Multi-grade Heavy Duty |
| <b>Ashland Oil, Inc.</b>                                                                                                                                                                  | Valvoline                                                                                                                                                                | <b>Bray Terminals, Inc.</b><br>Citgo (r,ur,p,up,sp,usp,o)                                  | Chevron<br>Citgo<br>Castrol                                                          | <b>Circle K Corp.</b><br>Major Brands<br>Aero (r,ur,up,usp)                                                          | Pennzoil<br>Quaker State<br>Various                                                                                           |
| <b>Atlantic Refining and Marketing Corp.</b><br>Atlantic (r,ur,up,usp)                                                                                                                    | Atlantic-Special<br>Atlantic-Premium<br>Atlantic-SuperPremium                                                                                                            | <b>Brennan Petroleum Co.</b><br>Mobil (r,ur,up)                                            | Mobil                                                                                | <b>CITGO Petroleum Corp.</b><br>Citgo Regular (r,ur)<br>The Performer Premium(r,ur)<br>Citgo Advantage Mid-grade (o) | Citgo Non-detergent<br>Citgard 500<br>Citgard 600<br>Citgard Special<br>Citgo Supergard                                       |
| <b>ARCO</b><br>Arco (r,rec-1,u,usp)                                                                                                                                                       | ARCO                                                                                                                                                                     | <b>Browning Oil Co.</b><br>Shell (RU 2000, SR 2000, SU 2000)<br>Rally (r,ur,up)            | Shell                                                                                | <b>Clark Oil &amp; Refining Corp.</b><br>(r,extra,up)                                                                | Clark H.D. 30<br>Clark Premium 5W30<br>Clark Premium 10W40<br>Clark Premium 10W30                                             |
| <b>KEY:</b><br>Gasoline:<br>(r) Regular<br>(ur) Unleaded Regular<br>(p) Premium<br>(up) Unleaded Premium<br>(sp) Super Premium<br>(usp) Unleaded Super Premium<br>(d) Diesel<br>(o) Other |                                                                                                                                                                          | <b>Buhrmaster Energy Group</b><br>Atlantic (r,ur,up)                                       | Magnum<br>Atlantic<br>Wolf's Head                                                    | <b>The Coastal Corporation</b><br>Coastal (r,ur,p,up,sp,usp,o)                                                       | Uni-Lube                                                                                                                      |
| <b>Motor Oils:</b><br>Brand names are listed lowest-price grade first.                                                                                                                    |                                                                                                                                                                          | <b>Dennis K. Burke Inc.</b><br>Fleetline<br>Citgo<br>Texaco<br>Shell<br>Castrol<br>Chevron |                                                                                      | <b>Coastal Unilube, Inc.</b>                                                                                         | Unilube<br>Duplex<br>GRC<br>Unipro                                                                                            |
|                                                                                                                                                                                           |                                                                                                                                                                          | <b>Bursaw Oil Corp.</b><br>Mobil (r,ur,up)<br>Texaco (r,ur,up)                             | Mobil<br>Texaco                                                                      | <b>The Coen Oil Co.</b><br>Amoco<br>Union<br>Mobil<br>Citgo<br>Pennzoil                                              | Amoco<br>Union<br>Mobil<br>Citgo<br>Pennzoil<br>Quaker State<br>Valvoline                                                     |
|                                                                                                                                                                                           |                                                                                                                                                                          | <b>C.S.C. Oil Co.</b><br>CSC (r,ur,up)                                                     |                                                                                      | <b>Colonial Oil Industries, Inc.</b><br>Enmark (no-lead, Sterling-Plus<br>Golden Premium<br>Big Red<br>Diesel        | Enmark                                                                                                                        |
|                                                                                                                                                                                           |                                                                                                                                                                          | <b>Campbell Oil Co.</b><br>Shell (r,ur,p)<br>Uno-Ven<br>Sunoco                             | Shell<br>Uno-Ven<br>Sun                                                              |                                                                                                                      |                                                                                                                               |
|                                                                                                                                                                                           |                                                                                                                                                                          | <b>Cannon Oil Corp.</b><br>Cannon (ur,up,usp, d)                                           | Cannon 10W40<br>Cannon 10W50<br>Cannon HD<br>Cannon Regular<br>Cannon 50-1 Outboard  |                                                                                                                      |                                                                                                                               |

| Gasoline                                                                                                                                  | Motor Oil                                                                         | Gasoline                                                                                               | Motor Oil                                                                             | Gasoline                                                                          | Motor Oil                                                              |
|-------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------|
| <b>Comet Oil Co.</b><br>(up,ur,us)                                                                                                        | Quaker State                                                                      | <b>Este Oil Co.</b><br>Mobil (r,ur,up)<br>Este (r)                                                     | Mobil<br>Citgo                                                                        | <b>Golub Corp.</b><br>Gulf (ur,up)                                                | Gulf<br>Mobil                                                          |
| <b>Como Oil Co.</b><br>Phillips 66 (r,ur,p,up)                                                                                            | Phillips<br>Shell                                                                 | <b>Exxon Company, U.S.A.</b><br>Exxon (r,ur)<br>Exxon Plus (up)<br>Exxon Supreme (usp)                 | Superflo:<br>High Performance<br>Single Grades<br>Multi-Grades<br>Supreme Performance | <b>Gresham Petroleum Co.</b><br>Amoco (r, ur, up, d)<br>Chevron (ur,up)           | Amoco<br>Chevron                                                       |
| <b>Conoco Inc.</b><br>Conoco (r,ur,up,usp)                                                                                                | Tracon<br>Fleet<br>Super<br>HP Naling<br>HP Turbo<br>HP Xtream                    | <b>Farm &amp; Home Oil Co.</b><br>Texaco (ur,up,usp,d)<br>Amoco (ur,up,usp)<br>Exxon (ur,up,usp)<br>BP | Texaco<br>Amoco<br>Exxon<br>BP                                                        | <b>Gulf Oil</b><br>Gulf (r, ur, usp)                                              | Gulflube<br>Super Duty<br>Gulfpriide                                   |
| <b>Consumers Gasoline Stations, Inc.</b><br>Scot (r,ur,up,o)<br>Consumers (r,ur,up,o)                                                     |                                                                                   | <b>Farmland Industries</b><br>Farmland<br>(r,ur,up,o)                                                  | Farmland Double<br>Circle                                                             | <b>Gull Industries Inc.</b><br>Gull (r, ur, up )                                  |                                                                        |
| <b>Convenient Petroleum Corp.</b><br>Citgo (r,ur)<br>Texaco (r,ur)<br>Sunoco (r,ur)                                                       | Citgo<br>Texaco<br>Sunoco                                                         | <b>Fas-Stop, Inc.</b><br>APCO (r,ur)                                                                   |                                                                                       | <b>Harris Oil Co.</b><br>Shell<br>Arco<br>BP<br>Pacific Pride                     | Shell<br>BP                                                            |
| <b>Cook &amp; Cooley, Inc.</b><br>Texaco (r,ur,up)                                                                                        | Havoline<br>Texaco                                                                | <b>Fleetman Inc.</b><br>Fuelman (r,ur,up,d)                                                            | Oilman                                                                                | <b>Hawaiian Independent Refinery Inc.</b><br>Gas Express                          | Valvoline                                                              |
| <b>Crockett Oil Co.</b><br>Conoco                                                                                                         | Conoco<br>Shell<br>Texaco(Havoline)<br>Phillips<br>Pennzoil Sun<br>Mobil          | <b>F.O. Fletcher Oil, Inc.</b><br>Veltex (r,ur)<br>Price-Less (r,ur)                                   |                                                                                       | <b>Highway Oil, Inc.</b><br>Regular unleaded<br>Premium unleaded<br>Diesel        | Workingman's Friend                                                    |
| <b>Crown Central Petroleum Corp.</b><br>Crown (r,ur,up,usp,d)                                                                             | Crown All-Season<br>10W40 & 10W30<br>Crown Quality SAE 30<br>Crown Dextron II ATF | <b>Fortmeyer Inc.</b><br>Pennzoil (r,ur,p,up,sp,usp,o)<br>Ashland (r,ur,p,up,sp,usp,o)                 | Citgo<br>Arco<br>Kendall                                                              | <b>Angus I. Hines Inc.</b><br>Sentry (r,ur,up,d)                                  | Sentry<br>Shell<br>Texaco<br>Citgo                                     |
| <b>Crystal Flash Petroleum</b><br>Crystal Flash<br>(ur,up,usp,o,d)                                                                        | Citgo                                                                             | <b>Foster Oil Co.</b><br>Union 76 (r,ur,usp)<br>Boron (ur)                                             | Unocal<br>Boron BP<br>Pennzoil<br>Mobil                                               | <b>Horkey Oil Co., Inc.</b><br>Shell (r,ur,SU2000,<br>RU2000)                     | Shell<br>Pennzoil<br>Quaker State                                      |
| <b>Curtis Parker Oil Co., Inc.</b><br>Conoco (ur,usp)                                                                                     | Fleet<br>Super<br>Tracon                                                          | <b>Franko Oil Co.</b><br>Arco                                                                          | Arco                                                                                  | <b>Horn Distributing Co., Inc.</b><br>Exxon                                       |                                                                        |
| <b>K.E. David Ltd.</b><br>Citgo (r,ur)                                                                                                    |                                                                                   | <b>Fuel-Link Inc.</b><br>FuelLink<br>(r,ur,up,usp,d)                                                   | Chevron Delco                                                                         | <b>Hough Petroleum</b><br>Citgo (r,ur,up)<br>Gulf (r,ur,up)<br>Atlantic (r,ur,up) | Gulf<br>Exxon<br>Pennzoil<br>Citgo<br>Atlantic                         |
| <b>DeBlols Oil Co.</b><br>Texaco (ur,up,usp)<br>Citgo (ur,up,usp)<br>Sunoco (ur,up,usp)                                                   | Texaco/Havoline<br>Sunoco<br>Citgo                                                | <b>Friends Convenience Stores</b><br>Shell (RU 2000<br>SR2000, SU2000)                                 | Shell                                                                                 | <b>Hub-Langle Fuel Corp.</b><br>Hess<br>United<br>BP<br>Ashland<br>NOCC           |                                                                        |
| <b>Diamond Shamrock Refining &amp; Mfg. Co.</b><br>Diamond Shamrock<br>(r,ur,usp,GTC,RG87)<br>(Reformulated gasoline in<br>Colorado only) | Triple Action<br>Equa Flow<br>Dextron 2/Mercon ATF                                | <b>H.N. Funkhouser &amp; Co.</b><br>Texaco (r, ur)<br>Exxon (r,ur,up)                                  | Kendall<br>Texaco Havoline<br>Exxon Superflow                                         | <b>Hucks Convenience Stores</b><br>Hucks<br>Shell<br>Amoco<br>Chevron<br>Phillips | Private<br>Pennzoil<br>Havoline                                        |
| <b>Dickey, Inc.</b>                                                                                                                       | Conoco<br>Texaco                                                                  | <b>Gard Corp.</b>                                                                                      | Gard                                                                                  | <b>Hudson Farris Corp.</b><br>APCO                                                | Pennzoil<br>Havoline<br>Valvoline<br>Phillips<br>Quaker State<br>Total |
| <b>Drakes Refining Stations</b><br>Unino 76 (r,ur,up)                                                                                     | Kendall<br>Quaker State<br>Pennzoil                                               | <b>General Oil Co.</b><br>Sinclair (r,ur,up)                                                           |                                                                                       | <b>Hughes Energy Inc.</b><br>Mobil                                                | Mobil<br>Emblem                                                        |
| <b>East Coast Oil Corp.</b><br>East Coast (r,ur,up)                                                                                       |                                                                                   | <b>Getty Petroleum Corp.</b><br>Getty (ur,up,usp)                                                      | Getty                                                                                 | <b>Hull Oil Co.</b><br>Chevron                                                    | Chevron<br>(r,ur,p,up,sp,usp,o)                                        |
| <b>Emro Marketing Co.</b><br>(ur,up,usp)                                                                                                  | Titan                                                                             | <b>Global Petroleum Corp.</b><br>Mobil<br>Sun<br>Conoco<br>Global<br>King<br>Coastal                   |                                                                                       | <b>Hunt Refining Co.</b><br>Parade (r,ur,up)                                      |                                                                        |
| <b>Englefield Oil Co.</b><br>Gulf (r,ur)<br>Marathon (r,ur)<br>Mobil (r,ur)                                                               | Duke<br>Gulf<br>Marathon<br>Mobil<br>Shell<br>Valvoline                           | <b>Godwin Oil Co.</b><br>Texaco<br>Phillips                                                            |                                                                                       | <b>Huntley Jiffy, Inc.</b><br>Huntley-Jiffy<br>Phillips<br>Citgo                  | Huntley-Jiffy                                                          |
|                                                                                                                                           |                                                                                   | <b>Golden Gate Petroleum Co.</b><br>BP (r,up,d)                                                        | Chevron<br>Texaco<br>Union<br>Mobil<br>Shell                                          |                                                                                   |                                                                        |

| Gasoline                                                                                                                                                                                  | Motor Oil                                                                  | Gasoline                                                                                                                                            | Motor Oil                                                                   | Gasoline                                                                                         | Motor Oil                                                                   |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| <b>J.D. Street &amp; Co., Inc.</b><br>Fina (r,ur,up,o)<br>Sunoco (r,ur,up,o)<br>Citgo (r,ur,up,o)                                                                                         | High Performance                                                           | <b>Kingston Oil Supply Corp.</b><br>Mobil<br>Getty                                                                                                  | Mobil                                                                       | <b>Midwest Petroleum Co.</b><br>Fina (ur,up,us)<br>Shell (RU 2000, SR 2000<br>SU 2000)           | Fina<br>Pennzoil<br>Shell                                                   |
| <b>Jacobus Petroleum Products Inc.</b><br>Phillips (r,ur,up)<br>Uno-Von (r,ur,up)<br>Citgo (r,ur,up)<br>Marathon (r,ur,up)                                                                | Phillips<br>Uno-Ven<br>Citgo<br>Marathon                                   | <b>Kirschner Bros. Oil Co.</b><br>Chevron<br>Getty                                                                                                  |                                                                             | <b>Mid-Missouri Oil Co.</b><br>Shell (ur,up,usp)<br>Citgo (r,ur,up,usp)                          | Shell<br>Citgo                                                              |
| <b>Jiffy Stop, Inc.</b><br>Citgo<br>Unocal<br>Phillips<br>Marathon                                                                                                                        | Citgo<br>Unocal<br>Phillips<br>Marathon<br>Rotella Shell<br>Texaco         | <b>Krause Gentle Corp.</b><br>Conoco<br>Amoco<br>Pennzoil<br>Quaker State                                                                           |                                                                             | <b>Miller Enterprises, Inc.</b><br>Unocal (r,ur,p,up,sp,usp,o)<br>Phillips (r,ur,p,up,sp,usp,o)  |                                                                             |
| <b>J&amp;L Oil, Inc.</b><br>J&L (ur,up,usp)                                                                                                                                               | J&L non-detergent<br>5W30<br>10W30<br>10W40<br>ATF                         | <b>Kunz Oil Co.</b><br>Kolh<br>Phillips                                                                                                             |                                                                             | <b>Miller Oil Co.</b><br>Exxon (r,ur,up)<br>Citgo (r,ur,up)<br>Amoco (ur,up)                     |                                                                             |
| <b>Johnson Products, Inc.</b><br>Citgo<br>Getty                                                                                                                                           | Getty<br>Citgo<br>Texaco<br>Mobil                                          | <b>Lake Shore Petrocorp</b><br>Phillips 66 (r,ur)<br>Marathon (r,ur)                                                                                | Phillips Trop Arctic<br>Phillips All Season                                 | <b>Missouri Terminal Oil Co.</b><br>Fina (r,ur,p,up,sp,usp,o,d)<br>Conoco (r,ur,up)              | Fina<br>Chevron<br>Conoco<br>Citgo                                          |
| <b>Kellett Oil Co.</b><br>Texaco<br>(r,ur,p,up,sp,usp)<br>Phillips 66<br>(r,ur,p,up,sp,usp,o)<br>Sinclair (r,ur,p,up,sp,usp)                                                              | GRC<br>Texaco                                                              | <b>Carlos R. Leffler</b><br>(ur,up,usp)                                                                                                             | Texaco<br>Shell<br>Chevron<br>Mobil<br>Gulf<br>Aro                          | <b>Mobil Oil Corp.</b><br>Mobil Unleaded<br>Mobil Special<br>Mobil Super Unleaded +              | Mobil Regular<br>Mobil Heavy Duty<br>Mobil Super<br>Mobil Delvac<br>Mobil 1 |
| <b>Kelley Williamson Co.</b><br>Mobil (ur,up)<br>Phillips (ur,up)                                                                                                                         | Citgo<br>Mobil<br>Kendall<br>Shell<br>Quaker State<br>Good wrench<br>Mopar | <b>H. C. Lewis Oil Co.</b><br>Exxon (r,ur,usp)<br>Lewco (ur,up,usp)                                                                                 | Exxon<br>Hydrotek                                                           | <b>Munro Petroleum &amp; Terminal Corp.</b><br>Shell<br>MP                                       | Shell<br>MP                                                                 |
| <b>Kelso Oil Co., Inc.</b><br>Pride (r,ur,up,usp)<br>Phillips 66 (r,ur,up)                                                                                                                | Kendall<br>Quaker State                                                    | <b>The Lyden Company</b><br>Amoco (r,ur,usp,d)<br>Union                                                                                             | Amoco<br>Quaker State<br>Valvoline                                          | <b>Murphy Oil USA, Inc.</b><br>Spur (ur,usp)                                                     |                                                                             |
| <b>Kent Distributors, Inc.</b><br>Diamond Shamrock<br>Phillips 66                                                                                                                         | Shamrock<br>Phillips 66<br>Quaker State<br>Pennzoil                        | <b>Marathon Petroleum Co.</b><br>Mile Maker (r)<br>Extra M<br>Super M (p)<br>Ameraclean-all grades<br>(Reformulated Gasoline,<br>Detroit area only) | V.E.P.<br>All Season<br>Multi-Power-3<br>Endurance<br>Marine-Terrain Master | <b>Musket Corp.</b><br>Independent                                                               | Major Brands                                                                |
| <b>Kerr-McGee Refining Corp.</b><br>Power Max (r,ur,up)<br>Power Max Formula 4                                                                                                            | Valu Lube<br>Heavy Duty<br>Blue Max<br>Blue Velvet                         | <b>Martin Oil Marketing, Ltd.</b><br>Martin (r,ur,usp,o,d)                                                                                          | Martin All Season<br>5W30<br>10W30<br>10W40                                 | <b>National Oil &amp; Gas Inc.</b><br>Phillips (r,ur,p,up,sp,usp)<br>Marathon (r,ur,p,up,sp,usp) | Marathon<br>Phillips<br>Mobil<br>Shell<br>Kendall                           |
| <b>Kickapoo Oil Co., Inc.</b><br>Kickapoo (r,ur,p,up,d)                                                                                                                                   | Kickapoo<br>Pennzoil                                                       | <b>McDowell Oil Service/Time Markets, Inc.</b><br>Exxon (ur,up,usp)                                                                                 |                                                                             | <b>Neal, Inc.</b><br>Fina (ur,up,usp,o)                                                          | Fina                                                                        |
| <b>Kimber Petroleum Corp.</b><br>Amoco<br>Mobil                                                                                                                                           | Amoco<br>Mobil                                                             | <b>McLeiser Oil, Inc.</b><br>Unocal 76<br>Marathon<br>Sunoco                                                                                        | Kendall<br>Unocal 76<br>Marathon<br>Sunoco                                  | <b>Nella Oil Co.</b><br>Exxon (r,ur,p,up,sp,usp,o)<br>Beacon (usp)                               | Superflow Exxon<br>BEACON<br>Sequia<br>Pennzoil                             |
| <b>KEY:</b><br>Gasoline:<br>(r) Regular<br>(ur) Unleaded Regular<br>(p) Premium<br>(up) Unleaded Premium<br>(sp) Super Premium<br>(usp) Unleaded Super Premium<br>(d) Diesel<br>(o) Other |                                                                            | <b>Merchants Oil Inc.</b><br>Sinclair (r,ur,p,up,sp,usp)<br>Sav-o-Mat                                                                               | Sinclair<br>Shell                                                           | <b>Northville Industries Corp.</b><br>Northville (r,ur,up,usp,o)<br>Texaco (r,ur,up,usp,o)       |                                                                             |
| <b>Motor Oils:</b><br>Brand names are listed lowest-price<br>grade first.                                                                                                                 |                                                                            | <b>Merit Oil Corp.</b><br>Merit (r,ur,up)                                                                                                           | Merit Special<br>Merit 10W30<br>Merit 10W40<br>Merit ATF                    | <b>Olympian Oil Co.</b><br>Olympic (r,ur,up,usp)                                                 | Kendall<br>Chevron<br>Exxon<br>Castrol<br>Olympic                           |
|                                                                                                                                                                                           |                                                                            | <b>Merritt Truax, Inc.</b><br>Texaco<br>Arco<br>Shell<br>Chevron                                                                                    | Major Brands                                                                | <b>Pai Oil Company, Inc.</b><br>Gulf<br>Atlantic                                                 | Havoline<br>Gulf<br>Quaker State<br>Pennzoil                                |
|                                                                                                                                                                                           |                                                                            | <b>MFA Oil Co.</b><br>MFA Oil<br>Kerr-McGee                                                                                                         | MFA Oil                                                                     | <b>Parker Oil Co., Inc.</b><br>Union 76<br>Exxon<br>Citgo<br>Petrol                              | Union 76<br>Exxon<br>Citgo<br>Texaco                                        |
|                                                                                                                                                                                           |                                                                            | <b>M.G.S. Oil, Petroleum &amp;<br/>General Trading Corp.</b><br>Marathon (r,ur,usp,d)                                                               | Marathon 20W50<br>Marathon 15W40<br>Marathon W20 & 30<br>Arco W20 & 30      | <b>Patterson Oil Co., Inc.</b><br>Mobil<br>Gulf<br>Citgo                                         | Mobil<br>Gulf<br>Citgo                                                      |

**Gasoline Motor Oil**

**Peavey Oil Co.**  
Texaco (r,ur,up,d)      Texaco  
Havoline

**Pennsylvania Petroleum Products Co.**  
Quaker State  
Brytol  
Stop Oil Treat

**Pennzoil**  
Pennzoil (r,ur,up,sp)      Pennzoil  
Wolf's Head

**Petro USA**  
Chevron  
Emblem  
Mobil  
Quaker State  
Kendall

**Petroleum Marketers, Inc.**  
Shell  
Exxon  
Citgo

**Petroleum Products Corp.**  
Best (r,ur,up,usp,o)

**Petrotex Marketing Inc.**  
Shell (r,ur,up)      Fina  
Quaker State  
Pennzoil  
Shell  
Chevron

**Phillips 66 Co.**  
Phillips (r,ur,p,up,sp,usp)      Unique  
M M Motor Oil  
Super HD II  
Trop Artic  
HDS  
Trop Artic Turbo  
Trop Artic Propane

**Piace Motor Fuels, Inc.**  
Unocal (r,ur,up,usp)      Conoco  
Conoco (r,ur,up,usp)      Amoco  
Shell  
Unocal

**Pilot Oil Corp.**  
Pilot (r,ur,up)      Pilot

**Pride Oil Co., Inc. (Miss.)**  
Parade  
Phillips 66

**Prime Lube**  
Amoco  
Arco

**Publix Oil Co., Inc.**  
Publix (r,ur,p,up,sp,usp,o)

**Pyramid Oil Co.**  
Pyramid  
Pyramid Thunder  
Mobil

**Quaker State Corp.**  
Quaker State (r,ur,up)      Quaker State HD  
Quaker State HDX  
Universal Fleet  
Quaker State Super  
Quaker State DeLuxe  
Quaker State Sterling

**Quality Oil Co. Limited Partnership**  
Quality Plus (r,ur,usp)      Quality Plus

**Quarles Petroleum**  
Quarles (r,ur,up,usp,d)

**Quiktrip Corp.**  
Quiktrip (r,ur,up,usp)      XP

**Red Hat Oil Co., Inc.**  
Citgo (r,ur,up,usp)      Major Brands

**Reinsauer Petroleum Inc.**  
Citgo (r,ur,p,up,usp,o)

**Gasoline Motor Oil**

**Reinhardt Oil Corp.**  
Citgo      Sunoco  
Citgo

**Reynolds Industries, Inc.**  
Port (ur,up,usp)      Port

**River Oil Co.**  
Phillips 66      Phillips 66

**Roach Oil Co.**  
Texaco (ur,up,usp)      Havoline  
URSA

**Robinson Oil Co., Inc.**  
Rotten Robbie (r,ur,usp)

**Gasoline Motor Oil**

**Royaster Oil Co., Inc.**  
BP (ur,up,usp)      Nitrex  
All Season  
Vanellus

**Russell Petroleum Corp.**  
Texaco (ur,up,o)      Quaker State  
Spur (ur,up,o)      Havoline  
Saveway (ur,up,o)

**Sahara Oil Co., Inc.**  
Texaco (r,ur,usp,d)

**Santee Oil Co., Inc.**  
Shell (r,ur,usp)      Shell  
Hess (ur,up,usp,o)

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| Gasoline                                                                              | Motor Oil                                                                                     | Gasoline                                                                                                                                                      | Motor Oil                                                                                                                                                | Gasoline                                                                                    | Motor Oil                                                                                                                             |
|---------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| <b>Save-X USA, Inc.</b><br>Save-X (r,ur,up,o)                                         | Pennzoil<br>Havoline                                                                          | <b>Stevens Oil Co.</b><br>Chevron (r,p,up,sp,usp,d)                                                                                                           | Chevron RPM<br>Custom<br>Delo 400                                                                                                                        | <b>Ultramar</b><br>Super Leaded<br>Super Unleaded<br>Super Premium                          | Beacon                                                                                                                                |
| <b>SCASCO</b><br>Texaco (r,ur,p,up,sp,usp,o)<br>Citgo                                 | Texaco<br>Citgo                                                                               | <b>Sugar Creek Corp.</b><br>Mobil (r,ur,up,o)<br>Sun (r,ur,up,o)                                                                                              | Sugarcreek                                                                                                                                               | <b>United Refining Co.</b><br>Superkwik (ur,up,usp)                                         | United                                                                                                                                |
| <b>Sears Oil Co. Inc.</b><br>Sears (r,ur,p,up,sp,usp)                                 | Sears Premium<br>Sears Supreme<br>TRI Pure                                                    | <b>Sumrail Oil Services, Inc.</b><br>Unocal 76<br>Conoco                                                                                                      |                                                                                                                                                          | <b>Unocal Corp.</b><br>76 (r,ur,up,usp)                                                     | Unocal Heavy Duty<br>Unocal Premium<br>Unocal Guardol<br>Unocal Super 10W-30<br>Unocal Super 10W-40<br>Unocal 20W/50 High Performance |
| <b>Shay Oil Co., Inc.</b><br>Exxon (r,ur,p,up,sp,usp)                                 | Exxon                                                                                         | <b>Sun Refining and Marketing Co.</b><br>Sunoco & Atlantic (r)<br>Sunoco Plus & Atlantic Plus<br>Sunoco Super, Sunoco Ultra, Atlantic Super<br>Sunoco Economy | Sun Lube<br>Sunoco Ultra Super C<br>Sunoco Ultra<br>Atlantic Super Premium<br>Atlantic SPecial                                                           | <b>Viata Marketing Group Ltd.</b>                                                           | Pennzoil<br>Quaker State                                                                                                              |
| <b>Shelby Petroleum Corp.</b><br>Peer (r,ur,p,up,sp,usp)<br>Bonus (r,ur,p,up,sp,usp)  | Bonus Regular<br>Sail Premium<br>Peer Premium<br>Peer Heavy Duty<br>Peer Multi-Grade          | <b>Sunshine Jr. Stores, Inc.</b><br>Jr. (r,ur,up,usp)<br>Citgo (r,ur,up,usp)                                                                                  | Rally<br>Citgo<br>Texaco-Havoline<br>Quaker State                                                                                                        | <b>Wake Up Oil Co.</b><br>Wake Up (r,ur,usp)                                                | Various                                                                                                                               |
| <b>Shell Oil Co.</b><br>Shell (RU2000, SR2000, SU2000S, SU2000E)                      | Shell<br>X-100<br>Fire & Ice 2000<br>Super 2000<br>Shell Truck Guard                          | <b>TCR, Inc.</b><br>TCR (r,ur,p)                                                                                                                              | TCR                                                                                                                                                      | <b>Warren Equities, Inc.</b><br>Sunoco (r,ur,ultra)<br>Citgo (r,ur,usp)<br>Mobil (r,ur,usp) | Oilzum<br>Citgo<br>Sunoco<br>Shell<br>Mobil<br>Castrol                                                                                |
| <b>Shotmeyer Bros. Petroleum Corp.</b><br>Mobil                                       | Mobil                                                                                         | <b>Taylor Oil Co.</b><br>Etna (ur,up,usp)                                                                                                                     |                                                                                                                                                          | <b>Webster Oil Co.</b><br>Phillips 66                                                       | Trop Artic<br>Quaker<br>Pennzoil<br>Castrol                                                                                           |
| <b>SICO Co.</b><br>Amoco (ur,up,usp)<br>Exxon (ur,up,usp)                             | Citgo<br>Valvoline<br>Amoco<br>Castrol<br>Exxon                                               | <b>Texaco Inc.</b><br>Texaco (r,ur,up,sp,o)                                                                                                                   | URSA Oil Extra Duty<br>URSA Oil Super Plus<br>URSA Oil Premium<br>Havoline Premium<br>Havoline Supreme<br>Havoline High Performance<br>Havoline Superior | <b>West Penn Oil Co., Inc.</b>                                                              | Emblem Oil                                                                                                                            |
| <b>R.L. Smeltz Oil Co., Inc.</b><br>Amoco<br>Pennzoil                                 | Amoco<br>Pennzoil                                                                             | <b>Thornhill Oil Co.</b><br>Amoco (ur,up,usp)                                                                                                                 | Amoco<br>Quaker State                                                                                                                                    | <b>Western Marketing, Inc.</b><br>Conoco (r,ur,usp)<br>Shell (r,ur,usp)                     | Delco<br>Conoco Par<br>Conoco Fleet<br>Conoco Super<br>Conoco Fleet Supreme<br>Shell Rotella<br>Aero Shell                            |
| <b>Smith-Shafer Oil Co.</b><br>Amoco (r,ur,up)                                        | Amoco<br>Quaker State<br>Pennzoil                                                             | <b>Thornton Oil Corp.</b><br>Thornton (r,ur,up)                                                                                                               |                                                                                                                                                          | <b>A. T. Williams Oil Co.</b><br>Wilco (r,ur,up,usp)                                        | Wilco                                                                                                                                 |
| <b>SOS Oil Corp</b><br>Gulf (ur,up)<br>Citgo (r,ur,up)                                | Gulf<br>Texaco<br>Shell<br>Citgo<br>Valvoline<br>Exxon<br>Kendall<br>Mobil<br>Beaver Weargard | <b>Thrifty Oil Co.</b><br>Thrifty (r,ur,up,usp)                                                                                                               | Thrifty                                                                                                                                                  | <b>J.H. Williams Oil Co., Inc.</b><br>Unocal (r,ur,up)                                      | Unocal                                                                                                                                |
| <b>Southern Counties Oil Co.</b><br>Arco (ur,up)<br>Texaco (ur,up,o)<br>Mobil (ur,up) | All major and independent<br>Mobil<br>Texaco<br>Shell                                         | <b>Time Saver Stores Inc.</b>                                                                                                                                 | Golden State<br>Quaker State<br>Pennzoil                                                                                                                 | <b>The Willis Group, Inc.</b><br>Texaco<br>Exxon<br>Amoco                                   | Texaco<br>Exxon<br>Amoco                                                                                                              |
| <b>Southern Oil Co., Inc.</b><br>Exxon<br>Southern                                    | Exxon Superflow<br>Pennzoil                                                                   | <b>TOC Retail, Inc. dba Majik Market</b><br>Majik Market<br>Citgo<br>Amoco<br>Texaco                                                                          |                                                                                                                                                          | <b>Wooten Oil Company</b><br>Citgo<br>Texaco<br>Amoco<br>Phillips                           |                                                                                                                                       |
| <b>Southern States Co-op</b><br>Southern States                                       | Co-op                                                                                         | <b>Tooley Oil Co.</b><br>Shell (r,ur,sp,usp,d)<br>BP                                                                                                          | Shell<br>BP<br>Pennzoil                                                                                                                                  | <b>World Oil Co.</b><br>World (r,ur,up,usp)<br>Shell<br>Arco<br>Texaco                      |                                                                                                                                       |
| <b>The Spencer Co., Inc.</b><br>Amoco (ur,r,o)<br>Citgo (ur,r,o)                      | Amoco<br>Citgo                                                                                | <b>Total Petroleum, Inc.</b><br>Total (r,up)<br>Vickers (ur,up)<br>APCO<br>Road Runner (r,ur,up)                                                              | Total Big Value<br>Total Golden Supreme<br>Total All Season<br>Total Quartz<br>Total GTS Quality                                                         | <b>Wright Industries, Inc.</b><br>Marathon (r,ur,up)<br>Citgo (r,ur,up)                     | Citgo<br>Shell<br>Texaco<br>Quaker State<br>Pennzoil                                                                                  |
| <b>M. Spiegel &amp; Sons Oil Cop.</b><br>Gulf<br>Citgo                                |                                                                                               | <b>Transit Oil Co.</b><br>Transit (r,ur)                                                                                                                      | Transit                                                                                                                                                  |                                                                                             |                                                                                                                                       |
| <b>Star Oil Co.</b><br>Shell (r,ur,up)                                                | Shell                                                                                         | <b>Travelers Petroleum, Inc.</b><br>Texaco (r,ur,up,sp)<br>Self Way (r,ur,p,up)                                                                               |                                                                                                                                                          |                                                                                             |                                                                                                                                       |
| <b>Stewart Petroleum Co.</b><br>Stewart (r,ur,p,up,d,o)                               | Agip<br>Mobil<br>Citgo<br>Goodwrench<br>Pennzoil                                              | <b>Trenton Oil Co. Inc.</b><br>Amoco (ur,up,usp)                                                                                                              | Amoco                                                                                                                                                    |                                                                                             |                                                                                                                                       |
|                                                                                       |                                                                                               | <b>Ultra Power Corp.</b><br>Gulf (r,ur,p,up,sp,usp,o)<br>Ultra Power<br>(r,ur,p,up,sp,usp,o)                                                                  | Gulf<br>Arco                                                                                                                                             |                                                                                             |                                                                                                                                       |

## KEY:

## Gasoline:

|       |                        |
|-------|------------------------|
| (r)   | Regular                |
| (ur)  | Unleaded Regular       |
| (p)   | Premium                |
| (up)  | Unleaded Premium       |
| (sp)  | Super Premium          |
| (usp) | Unleaded Super Premium |
| (d)   | Diesel                 |
| (o)   | Other                  |

# Capital Spending by Major Companies

Over the past few years, the major energy companies have been grabbing spare cash out of the corporate shoeboxes called "Exploration and Production" and stuffing it into ones called "Refining and Marketing." That's the conclusion of the Energy Information Administration's latest survey of the performances and capital expenditures of the top 23 U.S. energy companies. Called "Performance Profiles of Major Energy Producers 1989," the report was issued earlier this year.

Although total capital spending for the 23 companies—the EIA calls them "FRS" companies, a shorthand for its mandated Financial Reporting System—were down 9% from 1988 expenditures, when the cash outlays for mergers and acquisitions are excluded from the total, expenditures for

property, plant and equipment were actually up 4% to \$35.3-billion, the highest level since 1985. Merger and acquisition expenditures plummeted an astounding \$6.2-billion in 1989, almost a 40% drop from 1988's \$15.8-billion.

Refining and marketing expenditures were down in 1989 by 18%, but again EIA notes the decline was related to reduced buyout and merger activity. Excluding those factors, FRS capital spending for R&M increased by 0.5% to \$5.2-billion.

Capital expenditures in 1989 for petroleum marketing just about equaled the record outlays of \$2.8-billion in 1988, EIA says. "Marketing has become an investment target in recent years after many years as an area of net retrenchment."

Perhaps the most interesting piece of information is not shown in the table below.

EIA says the share of the major companies' total investment in U.S. oil and gas operations decline from almost 50% in 1981-1985 to less than one-third in 1986-1989. "The shift in the FRS companies; investment has been to the areas with increased profitability in recent years: refining, marketing and chemicals," the report says. Over the 1981-1985 period, investments related to refining and marketing ranged from 11-15%. But, EIA says, this share increased to 17% in 1986 and has been at 20% in each of the last three years.

**EDITORS NOTE:** This EIA report replaces the annual report on oil industry capital spending furnished by Chase Manhattan Bank and which appeared in the NPN Factbook in previous years. NPN was informed that the Chase Manhattan report will not be available until the Fall of 1991.

## Major Company Capital Expenditures — 1987 – 1989

(Billions Dollars)

| Line of Business                                                  | 1989        | 1988        | 1987        | Percent Change<br>1988-1989 | Percent Change<br>Excluding Mergers<br>and Acquisitions<br>1988-1989 |
|-------------------------------------------------------------------|-------------|-------------|-------------|-----------------------------|----------------------------------------------------------------------|
| <b>Petroleum</b>                                                  |             |             |             |                             |                                                                      |
| <b>U.S. Petroleum</b>                                             |             |             |             |                             |                                                                      |
| Production                                                        | 11.9        | 17.8        | 11.3        | (33.0%)                     | (16.5%)                                                              |
| Refining/Marketing                                                |             |             |             |                             |                                                                      |
| Refining                                                          | 2.4         | 3.7         | 1.9         | (34.1)                      | N/A                                                                  |
| Marketing                                                         | 2.8         | 2.8         | 2.1         | (0.3)                       | N/A                                                                  |
| Transport                                                         | 0.3         | 0.3         | 0.4         | 13.3                        | N/A                                                                  |
| <b>Total Refining/Marketing</b>                                   | <b>5.5</b>  | <b>6.8</b>  | <b>4.5</b>  | <b>(18.1)</b>               | <b>(5.8)</b>                                                         |
| Pipelines                                                         | 0.7         | 0.7         | 0.9         | (2.8)                       | 2.1                                                                  |
| <b>Total U.S. Petroleum</b>                                       | <b>18.2</b> | <b>25.3</b> | <b>16.7</b> | <b>(28.2)</b>               | <b>(12.5)</b>                                                        |
| <b>Foreign Petroleum</b>                                          |             |             |             |                             |                                                                      |
| Production                                                        | 12.4        | 10.3        | 7.4         | 20.8                        | 34.2                                                                 |
| Refining/Marketing                                                | 3.4         | 3.3         | 2.4         | 0.9                         | (43.8)                                                               |
| International Marine                                              | 0.2         | 0.2         | 0.1         | 43.7                        | 43.7                                                                 |
| <b>Total Foreign Petroleum</b>                                    | <b>16.0</b> | <b>13.7</b> | <b>9.9</b>  | <b>16.2</b>                 | <b>11.4</b>                                                          |
| <b>Total Petroleum</b>                                            | <b>34.2</b> | <b>39.1</b> | <b>26.6</b> | <b>(12.5)</b>               | <b>(4.7)</b>                                                         |
| <b>Coal</b>                                                       | 1.0         | 0.6         | 0.6         | 81.6                        | 46.3                                                                 |
| <b>Other Energy</b>                                               |             |             |             |                             |                                                                      |
| U.S.                                                              | 0.1         | 0.2         | 0.2         | (63.8)                      | N/A                                                                  |
| Foreign                                                           | 0.1         | 0.2         | 0.1         | (56.3)                      | N/A                                                                  |
| <b>Total Other Energy</b>                                         | <b>0.2</b>  | <b>0.4</b>  | <b>0.3</b>  | <b>(59.8)</b>               | <b>(58.7)</b>                                                        |
| <b>Nonenergy</b>                                                  |             |             |             |                             |                                                                      |
| Chemicals                                                         | 6.3         | 7.2         | 3.8         | (12.6)                      | 22.9                                                                 |
| Other Nonenergy                                                   | 2.4         | 2.4         | 2.9         | 0.5                         | 36.9                                                                 |
| <b>Total Nonenergy</b>                                            | <b>8.8</b>  | <b>9.7</b>  | <b>6.7</b>  | <b>(9.3)</b>                | <b>20.6</b>                                                          |
| Nontraceables                                                     | 0.9         | 0.0         | 0.6         | —                           | —                                                                    |
| Additions to Investment in Place (a)                              | 45.0        | 49.7        | 34.8        | (9.4)                       | —                                                                    |
| Additions Due to Mergers<br>and Acquisitions                      | 9.7         | 15.8        | 5.9         | (39.1)                      | —                                                                    |
| <b>Total Additions Excluding Mergers<br/>    and Acquisitions</b> | <b>35.3</b> | <b>33.8</b> | <b>28.9</b> | <b>4.5</b>                  | <b>—</b>                                                             |

(a) Measured as additions to property, plant and equipment, plus additions to investments and advances.

Note: Sum of components may not equal total due to independent rounding. Percent changes were calculated from unrounded data.

Source: Energy Information Administration, "Performance Profiles of Major Energy Producers, 1989."

# Foreign and U.S. Investments in Petroleum

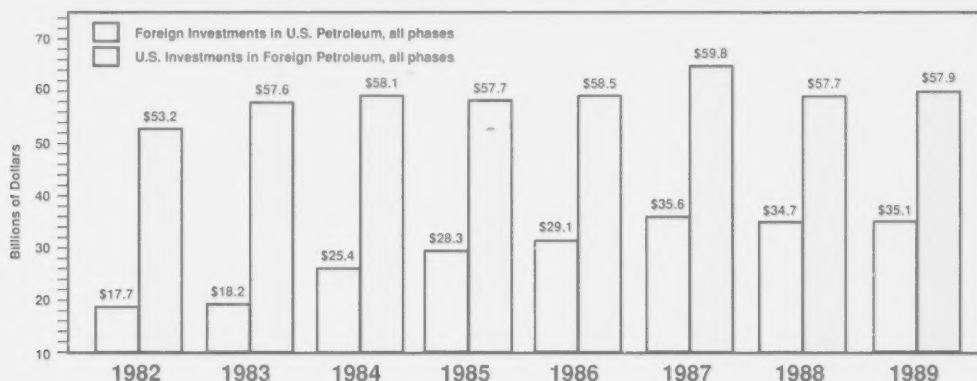
Despite some of the headline-making deals of recent years (Saudi Arabia/Texaco, Venezuela/Citgo), direct investments by foreign companies (FDI) in the U.S. petroleum industry appears to be cooling down somewhat. In fact, the percentage of foreign investments in this country's petroleum assets compared to total FDI in the U.S. fell to 9% in 1989, the lowest level since 1974.

However, there are some trends worth noting in the latest FDI compilation by the Energy Information Administration (EIA). The largest 1989 acquisitions in U.S.

petroleum by foreign investors, EIA says, involved refining and marketing assets.

The three biggest downstream deals in 1989 included Petroleos de Venezuela's formation of the Uno-ven joint venture, valued at \$500-million; the move into downstream by Australia's Broken Hill Proprietary Co., Ltd. with its acquisition of Pacific Resources and its Hawaiian refinery for \$378-million and the \$115-million purchase of 120 Road Runner outlets from Truman Arnold Cos. by Total Petroleum North America, Ltd., an affiliate of Total Compagnie Francaise des Petroles.

Foreign-affiliated U.S.-branded retail outlets jumped dramatically in 1989, mostly due to the Uno-ven transaction (3,550 outlets) and startup of operations of the Star Enterprise/Saudi Arabia joint venture (10,700 outlets). EIA says the recent growth in foreign investor interest in U.S. refining and marketing reflects a general "turnaround" in downstream profitability. Foreign ownership of crude distillation refining capacity has been growing at an especially fast rate since the mid-1980's and now accounts for 27%, or 4.2-million b/d, of the U.S. total capacity.



## Foreign Direct Investments in the U.S.

(Billions of Dollars)

| Year | FDI in U.S. Petroleum | Total FDI in U.S. | % Petroleum of Total |
|------|-----------------------|-------------------|----------------------|
| 1989 | \$35.1                | \$400.8           | 8.8%                 |
| 1988 | 34.7                  | 328.9             | 10.6                 |
| 1987 | 35.6                  | 271.8             | 13.1                 |
| 1986 | 29.1                  | 220.4             | 13.2                 |
| 1985 | 28.3                  | 184.6             | 15.3                 |
| 1984 | 25.4                  | 164.6             | 15.4                 |
| 1983 | 18.2                  | 137.1             | 13.3                 |
| 1982 | 17.7                  | 124.7             | 14.2                 |
| 1981 | 15.2                  | 108.7             | 14.0                 |

## U.S. Direct Investments in Foreign Petroleum

(Billions of Dollars)

| Year | U.S. Direct Investments in Foreign Oil | Total U.S. Investment Abroad | % Petroleum of Total |
|------|----------------------------------------|------------------------------|----------------------|
| 1989 | \$57.9                                 | \$373.4                      | 15.5%                |
| 1988 | 57.7                                   | 333.5                        | 17.3                 |
| 1987 | 59.8                                   | 314.3                        | 19.0                 |
| 1986 | 58.5                                   | 259.8                        | 22.5                 |
| 1985 | 57.7                                   | 230.2                        | 25.1                 |
| 1984 | 58.1                                   | 211.5                        | 27.5                 |
| 1983 | 57.7                                   | 230.2                        | 25.1                 |
| 1982 | 57.8                                   | 207.8                        | 27.8                 |
| 1981 | 53.2                                   | 228.3                        | 23.3                 |

Source: Energy Information Administration, "Profiles of Foreign Direct Investment in U.S. Energy."

## FDIs in Marketing, Refining and Production (a)

|                                                             | 1989    | 1988    | 1987    |
|-------------------------------------------------------------|---------|---------|---------|
| <b>Branded retail outlets</b>                               |         |         |         |
| FDI companies                                               | 52,166  | 39,805  | 39,198  |
| U.S. total                                                  | 111,657 | 112,000 | 115,870 |
| % FDI of U.S. total                                         | 46.7%   | 34.3%   | 33.8%   |
| <b>Gasoline supplied (thousands of b/d)</b>                 |         |         |         |
| FDI companies                                               | 2,051   | 1,673   | 1,586   |
| U.S. total                                                  | 7,328   | 7,326   | 7,206   |
| % FDI of U.S. total                                         | 28.0%   | 22.8%   | 22.0%   |
| <b>Refineries</b>                                           |         |         |         |
| FDI companies                                               | 36      | 36      | 34      |
| U.S. total                                                  | 205     | 204     | 213     |
| % FDI of U.S. total                                         | 19.5%   | 17.6%   | 16.0%   |
| <b>Crude distillation capacity (thousands of b/d)</b>       |         |         |         |
| FDI companies                                               | 4,171   | 3,971   | 3,342   |
| U.S. total                                                  | 15,572  | 15,655  | 15,915  |
| % FDI of U.S. total                                         | 26.8%   | 25.4%   | 21.0%   |
| <b>Crude oil and NGL production (thousands of b/d)</b>      |         |         |         |
| FDI companies                                               | 1,546   | 1,656   | 1,614   |
| U.S. total                                                  | 9,219   | 9,818   | 10,008  |
| % FDI of U.S. total                                         | 16.8%   | 16.9%   | 16.1%   |
| <b>Crude oil and NGL proved reserves (millions of bbl.)</b> |         |         |         |
| FDI companies                                               | 6,378   | 6,436   | 6,457   |
| U.S. total                                                  | 34,270  | 35,063  | 35,403  |
| % FDI of U.S. total                                         | 18.6%   | 18.4%   | 18.2%   |

(a) EIA has revised many of the totals originally published last year for 1988 in the categories shown. The revisions appear in the tables above.

Source: Energy Information Administration, "Profiles of Foreign Direct Investment in U.S. Energy."

# How Oil Companies Handle

## Branded Service Stations

| Company                                                            | Total<br>Branded<br>Retail<br>Outlets | Number of States<br>Where<br>Gasoline<br>Brand Is<br>Marketed (a) | Supplied<br>Directly | Supplied<br>Through<br>Jobbers and<br>Commissioned<br>Agents | Leasee/<br>Dealer-<br>Operated | Salary-<br>Operated |
|--------------------------------------------------------------------|---------------------------------------|-------------------------------------------------------------------|----------------------|--------------------------------------------------------------|--------------------------------|---------------------|
| Ade Resources.....                                                 | 61                                    | 1                                                                 | 38                   | 23                                                           | 38                             | —                   |
| Advanced Oil Co.....                                               | 20                                    | 2                                                                 | 20                   | —                                                            | 5                              | 15                  |
| Agway Petroleum Corp.....                                          | 220                                   | 9                                                                 | 75                   | 21                                                           | 21                             | 74                  |
| American Petrofina, Inc.....                                       | 3,136                                 | 25                                                                | 174                  | 2,962                                                        | 8                              | 155                 |
| American Refining Group, Inc.....                                  | 8                                     | 2                                                                 | 8                    | —                                                            | —                              | 5                   |
| Amoco Corp.....                                                    | 9,802                                 | 33                                                                | 3,838                | 5,964                                                        | 3,299                          | 539                 |
| Anchor Gasoline Corp.....                                          | 61                                    | 1                                                                 | 61                   | —                                                            | 61                             | —                   |
| Arkansas Valley Petroleum.....                                     | 83                                    | 2                                                                 | 83                   | —                                                            | 69                             | —                   |
| ARCO.....                                                          | 1,541(b)                              | 5                                                                 | 1,341                | 200                                                          | N/A                            | N/A                 |
| Truman Arnold Cos.....                                             | N/A                                   | —                                                                 | —                    | —                                                            | —                              | —                   |
| Ashland Oil, Inc.....                                              | 1,968                                 | 18                                                                | 498                  | —                                                            | 498                            | —                   |
| Aztex Enterprises.....                                             | 21                                    | 1                                                                 | 21                   | —                                                            | —                              | 21                  |
| BP America, Inc.....                                               | 7,531                                 | 33                                                                | 2,358                | 5,173                                                        | 1,134                          | 974                 |
| Bagwell Oil Co., Inc.....                                          | 27                                    | 2                                                                 | 12                   | —                                                            | 3                              | —                   |
| E.M. Bailey.....                                                   | 60                                    | 3                                                                 | 60                   | —                                                            | —                              | —                   |
| Bedford Valley Petroleum Corp.....                                 | 51                                    | 3                                                                 | —                    | 48                                                           | 42                             | —                   |
| Bell Fuels, Inc.....                                               | 5                                     | 2                                                                 | 5                    | 0                                                            | 1                              | 4                   |
| Best Oil Co.....                                                   | 15                                    | 2                                                                 | 12                   | 3                                                            | —                              | 15                  |
| Bostick Brothers, Inc.....                                         | 18                                    | 2                                                                 | 18                   | —                                                            | 7                              | 2                   |
| Bradley Petroleum, Inc.....                                        | 36                                    | 3                                                                 | 36                   | —                                                            | 2                              | 34                  |
| Bray Terminals, Inc.....                                           | 43                                    | 2                                                                 | —                    | 43                                                           | —                              | —                   |
| Brennan Petroleum Corp.....                                        | 1                                     | 1                                                                 | 1                    | —                                                            | —                              | 1                   |
| Broken Hill Proprietary/Pacific<br>Resources, dba Gas Express..... | 25                                    | 1                                                                 | 25                   | —                                                            | —                              | 25                  |
| Browning Oil Co.....                                               | 22                                    | 1                                                                 | 29                   | —                                                            | 20                             | 9                   |
| Buhrmaster Energy Group.....                                       | 3                                     | 1                                                                 | 3                    | —                                                            | 3                              | —                   |
| Dennis K. Burke, Inc.....                                          | 1                                     | 1                                                                 | 1                    | 0                                                            | 0                              | 0                   |
| Bursaw Oil Corp.....                                               | 57                                    | 2                                                                 | —                    | 51                                                           | 3                              | 17                  |
| By-Lo Oil Co.....                                                  | 17                                    | 1                                                                 | 17                   | —                                                            | —                              | 17                  |
| Campbell Oil Co.....                                               | 79                                    | 1                                                                 | 79                   | —                                                            | 79                             | —                   |
| Cannon Oil Corp.....                                               | 17                                    | 3                                                                 | 17                   | —                                                            | —                              | 17                  |
| Cel Oil Products Corp.....                                         | 8                                     | 1                                                                 | 8                    | —                                                            | 1                              | 7                   |
| Cenex.....                                                         | 1,021                                 | 14                                                                | 1,003                | 18                                                           | 14                             | 62                  |
| Certified Oil Co.....                                              | 150                                   | 3                                                                 | —                    | —                                                            | 8                              | 142                 |
| Champlain Oil Co.....                                              | 100                                   | 4                                                                 | 93                   | 7                                                            | 94                             | 6                   |
| Chapman, Inc.....                                                  | 37                                    | 1                                                                 | 37                   | —                                                            | 17                             | 5                   |
| Chevron Corp.....                                                  | 9,664(c)                              | 33                                                                | 3,303                | 6,361                                                        | 2,622                          | 681                 |
| Circle K Corp.....                                                 | 801                                   | 22                                                                | —                    | —                                                            | —                              | 801                 |
| Citgo Petroleum Corp.....                                          | 9,734                                 | 46                                                                | 23                   | 9,711                                                        | 7                              | 16                  |
| Clark Oil & Refining Corp.....                                     | 937                                   | 12                                                                | 937                  | —                                                            | 16                             | 921                 |
| The Coastal Corp.....                                              | 807                                   | 28                                                                | 807                  | —                                                            | 246                            | 561                 |
| The Coen Co.....                                                   | 125                                   | 1                                                                 | —                    | —                                                            | 125                            | —                   |
| Colonial Oil Industries, Inc.....                                  | 57                                    | 3                                                                 | 57                   | 0                                                            | —                              | 57                  |
| Comet Oil Co.....                                                  | 3                                     | 2                                                                 | 3                    | —                                                            | —                              | 3                   |
| Como Oil Co.....                                                   | 30                                    | 1                                                                 | 30                   | —                                                            | 27                             | 3                   |
| Conoco Inc.....                                                    | 4,915(d)                              | 37                                                                | 526                  | 4,389                                                        | 4,089                          | 526                 |
| Consumers Gasoline Stations, Inc.....                              | 45                                    | 3                                                                 | 45                   | —                                                            | —                              | 45                  |
| Consumers Oil.....                                                 | 41                                    | 2                                                                 | —                    | —                                                            | —                              | —                   |
| Convenient Petroleum Corp.....                                     | 35                                    | 1                                                                 | 35                   | —                                                            | 6                              | 28                  |
| Cook & Cooley Inc.....                                             | 60                                    | 1                                                                 | 50                   | 10                                                           | —                              | —                   |
| Crown Central Petroleum Corp.....                                  | 601                                   | 8                                                                 | 582                  | 19                                                           | 97                             | 504                 |
| Crystal Flash Petroleum.....                                       | 26                                    | 1                                                                 | 26                   | —                                                            | —                              | 26                  |
| Curtis Parker Oil Co. Inc.....                                     | 21                                    | 1                                                                 | 15                   | 6                                                            | 20                             | 1                   |
| K.E. David, Ltd.....                                               | 4                                     | 1                                                                 | 4                    | —                                                            | 3                              | 1                   |
| DeBiola Oil Co.....                                                | 41                                    | 2                                                                 | 43                   | —                                                            | 14                             | 29                  |
| Diamond Shamrock, Inc.....                                         | 1,914                                 | 8                                                                 | 677                  | 1,237                                                        | —                              | 677                 |
| Dickey, Inc.....                                                   | 8                                     | 1                                                                 | 6                    | 2                                                            | 2                              | 6                   |
| Drakes Refining Station, Inc.....                                  | 6                                     | 1                                                                 | 6                    | —                                                            | —                              | —                   |
| East Coast Oil Corp.....                                           | 43                                    | 1                                                                 | 43                   | —                                                            | —                              | 43                  |
| Engelfield Oil Co.....                                             | 248                                   | 2                                                                 | 248                  | —                                                            | 195                            | 53                  |
| Este Oil Co.....                                                   | 4                                     | 1                                                                 | 4                    | —                                                            | 3                              | 1                   |
| Exxon.....                                                         | 11,673                                | 40                                                                | 3,846                | 7,827                                                        | 2,751                          | 589                 |
| Farm & Home Oil Co.....                                            | 42                                    | 2                                                                 | 42                   | —                                                            | 30                             | 8                   |
| Farmland Industries.....                                           | 800                                   | 15                                                                | 6                    | 794                                                          | —                              | 6                   |
| Fleetman, Inc. dba Fuelman.....                                    | 5                                     | 1                                                                 | —                    | —                                                            | —                              | —                   |
| Flying J. Inc.....                                                 | 86                                    | 21                                                                | 86                   | —                                                            | 28                             | —                   |
| Fortmeyer Inc.....                                                 | 1                                     | 1                                                                 | 1                    | —                                                            | —                              | —                   |
| Friends Convenience Stores.....                                    | 33                                    | 1                                                                 | 29                   | 4                                                            | 8                              | 0                   |
| Fuel-Link, Inc.....                                                | 1                                     | 1                                                                 | —                    | 1                                                            | —                              | 1                   |
| H.N. Funkhouser & Co.....                                          | 25                                    | 1                                                                 | 25                   | —                                                            | 12                             | 12                  |
| General Oil Co.....                                                | 29                                    | 1                                                                 | —                    | —                                                            | —                              | —                   |
| Getty Petroleum Corp.....                                          | 2,202                                 | 13                                                                | 1,507                | 695                                                          | 1,248                          | 220                 |
| Giant Industries, Inc.....                                         | 39                                    | 3                                                                 | —                    | —                                                            | —                              | —                   |

(a) Includes Dist. of Col. (b) Excludes 6 am/pm's with no gasoline sales. (c) Roughly 99% of the direct supplied branded outlets are self-serve only. (d) Figures shown are 1989 totals.



## Product Distribution — 1990

## Branded Jobbers/Commissioned Agents

| Commission-operated | Full-service only | Self-service only | Self-service Full-service | Total | Number selling . . . |               |                   |
|---------------------|-------------------|-------------------|---------------------------|-------|----------------------|---------------|-------------------|
|                     |                   |                   |                           |       | Gasoline only        | Fuel oil only | Gasoline/Fuel oil |
| —                   | 18                | 19                | 24                        | 15    | —                    | —             | 15                |
| —                   | 15                | 5                 | —                         | —     | —                    | —             | —                 |
| 1                   | 0                 | 91                | 5                         | 13    | 1                    | —             | 12                |
| 0                   | 157               | 2,509             | 470                       | 365   | 10                   | 0             | 355               |
| 3                   | —                 | 8                 | —                         | 0     | —                    | —             | —                 |
| —                   | —                 | 61                | —                         | —     | 10                   | 10            | —                 |
| 14                  | —                 | 83                | —                         | 2     | —                    | —             | 2                 |
| N/A                 | N/A               | 1,325(e)          | N/A                       | 27    | 23                   | 0             | 4                 |
| —                   | —                 | —                 | —                         | 2     | —                    | —             | —                 |
| —                   | 403               | 1,519             | 1,916                     | 982   | —                    | —             | —                 |
| —                   | 431               | 6                 | 61                        | 146   | —                    | —             | 135               |
| —                   | —                 | 20                | 1                         | 0     | —                    | —             | —                 |
| 250                 | 650               | 350               | 6,431                     | 532   | —                    | 116           | 416               |
| 9                   | 3                 | 6                 | 3                         | —     | —                    | —             | —                 |
| —                   | —                 | —                 | —                         | —     | —                    | —             | —                 |
| —                   | 33                | 5                 | 10                        | 2     | —                    | —             | 2                 |
| —                   | 4                 | 1                 | 0                         | —     | —                    | —             | —                 |
| —                   | —                 | 14                | 1                         | 0     | —                    | —             | —                 |
| 9                   | —                 | 18                | —                         | —     | —                    | —             | —                 |
| —                   | —                 | 36                | —                         | 0     | —                    | —             | —                 |
| —                   | —                 | 43                | —                         | 30    | —                    | —             | 30                |
| —                   | —                 | 1                 | —                         | —     | —                    | —             | —                 |
| —                   | —                 | 25                | —                         | 0     | —                    | —             | —                 |
| —                   | 2                 | 9                 | 18                        | 0     | —                    | —             | —                 |
| —                   | 1                 | —                 | 2                         | —     | —                    | —             | —                 |
| 0                   | 1                 | 0                 | 0                         | 1     | —                    | —             | 1                 |
| —                   | 4                 | 10                | —                         | —     | —                    | —             | —                 |
| —                   | 2                 | 14                | 1                         | 0     | —                    | —             | —                 |
| —                   | 16                | 63                | —                         | —     | —                    | —             | —                 |
| —                   | 4                 | 17                | —                         | —     | —                    | —             | —                 |
| —                   | 121               | 391               | 509                       | 1,021 | 71                   | —             | 950               |
| —                   | —                 | 20                | —                         | —     | —                    | —             | —                 |
| —                   | 15                | 80                | 5                         | N/A   | —                    | —             | —                 |
| 15                  | 0                 | 27                | 10                        | —     | —                    | —             | —                 |
| —                   | 1,353             | 4,639             | 3,672                     | 640   | 0                    | 0             | 640               |
| 0                   | —                 | 801               | —                         | 0     | —                    | —             | —                 |
| —                   | —                 | —                 | —                         | 492   | —                    | —             | —                 |
| —                   | 8                 | 919               | 10                        | —     | —                    | —             | —                 |
| —                   | 42                | 653               | 112                       | 201   | 201                  | —             | —                 |
| —                   | —                 | 25                | 100                       | 0     | —                    | —             | —                 |
| —                   | 5                 | 4                 | 48                        | 0     | —                    | —             | —                 |
| —                   | 1                 | 2                 | —                         | —     | —                    | —             | —                 |
| —                   | 0                 | 25                | 5                         | —     | —                    | —             | —                 |
| —                   | 466               | 3,961             | 488                       | 618   | 463                  | 0             | 155               |
| —                   | 3                 | 38                | 4                         | 45    | 35                   | —             | 10                |
| —                   | —                 | —                 | —                         | —     | —                    | —             | —                 |
| 1                   | 1                 | 32                | 2                         | 0     | —                    | —             | —                 |
| —                   | —                 | 48                | 12                        | —     | 50                   | 10            | —                 |
| —                   | 0                 | 532               | 59                        | 0     | —                    | —             | —                 |
| —                   | 1                 | 25                | —                         | 3     | —                    | —             | 3                 |
| —                   | 5                 | 9                 | 7                         | 3     | —                    | —             | 3                 |
| —                   | 4                 | —                 | —                         | —     | —                    | —             | —                 |
| —                   | 22                | 21                | —                         | 43    | 43                   | —             | —                 |
| 0                   | 62                | 1,113             | 62                        | 121   | 85                   | 0             | 36                |
| —                   | 3                 | 3                 | 2                         | 4     | 2                    | —             | 2                 |
| —                   | 2                 | 4                 | —                         | —     | —                    | —             | —                 |
| —                   | —                 | 43                | —                         | 0     | —                    | —             | —                 |
| —                   | 48                | 69                | 131                       | 3     | —                    | —             | 3                 |
| —                   | —                 | 1                 | 3                         | 3     | 1                    | —             | 1                 |
| —                   | —                 | —                 | —                         | 700   | 376                  | —             | 324               |
| 4                   | 29                | 7                 | 6                         | 0     | —                    | —             | —                 |
| —                   | 150               | 400               | 250                       | 1,100 | —                    | —             | 1,100             |
| —                   | —                 | —                 | —                         | 16    | —                    | —             | 16                |
| 0                   | 0                 | 5                 | 7                         | 1     | 1                    | —             | 1                 |
| —                   | —                 | —                 | —                         | —     | —                    | —             | —                 |
| 1                   | —                 | 18                | 7                         | 0     | —                    | —             | —                 |
| —                   | —                 | —                 | —                         | —     | —                    | —             | —                 |
| 39                  | —                 | —                 | —                         | 695   | 695                  | N/A           | N/A               |
| —                   | 39                | —                 | —                         | —     | —                    | —             | —                 |

(e) Excludes airport and marine outlets, new car dealerships and military exchanges.

| Bulk Plants      |                 |                     |                             | Terminals        |                 |                     |                           | Company                          |
|------------------|-----------------|---------------------|-----------------------------|------------------|-----------------|---------------------|---------------------------|----------------------------------|
| Company-operated |                 |                     |                             | Company-operated |                 |                     |                           |                                  |
| Total            | Salary-operated | Commission-operated | Jobber-operated bulk plants | Total            | Salary-operated | Commission-operated | Jobber-operated terminals |                                  |
| 3                | 2               | 1                   | 10                          | N/A              | —               | —                   | N/A                       | Ada Resources                    |
| —                | —               | —                   | —                           | —                | —               | —                   | —                         | Advanced Oil Co.                 |
| 133              | 121             | —                   | 12                          | 10               | 10              | —                   | —                         | Agway Petroleum Corp.            |
| 183              | —               | —                   | 183                         | 6                | 6               | 0                   | 1                         | American Petrofina, Inc.         |
| 0                | —               | —                   | 0                           | 1                | 1               | —                   | 0                         | American Refining Group, Inc.    |
| —                | —               | —                   | —                           | 77               | —               | N/A                 | —                         | Amoco Corp.                      |
| 10               | —               | 10                  | —                           | 2                | —               | —                   | —                         | Anchor Gasoline Corp.            |
| 0                | —               | —                   | 1                           | 0                | —               | —                   | 0                         | Arkansas Valley Petroleum        |
| 0                | 0               | 0                   | N/A                         | 28               | 10              | 18                  | N/A                       | ARCO                             |
| 2                | 2               | —                   | 2                           | 3                | —               | —                   | 0                         | Truman Arnold Cos.               |
| 123              | 5               | 118                 | N/A                         | 30               | 30              | —                   | N/A                       | Ashland Oil, Inc.                |
| 1                | 1               | —                   | 0                           | 0                | —               | —                   | 0                         | Aztex Enterprises                |
| 78               | —               | 78                  | —                           | 57               | 57              | —                   | —                         | BP America, Inc.                 |
| 2                | 2               | —                   | —                           | 1                | 1               | 0                   | —                         | Bagwell Oil Co., Inc.            |
| 4                | —               | 4                   | —                           | —                | —               | —                   | —                         | E.M. Bailey                      |
| 4                | —               | —                   | 4                           | —                | —               | —                   | —                         | Bedford Valley Petroleum Co.     |
| 1                | 1               | 0                   | —                           | 1                | 1               | 0                   | —                         | Bell Fuels, Inc.                 |
| 0                | —               | —                   | 0                           | 0                | —               | —                   | 0                         | Best Oil Co.                     |
| 2                | —               | —                   | 0                           | 1                | 1               | —                   | —                         | Bostick Brothers Inc.            |
| 0                | —               | —                   | 0                           | 0                | —               | —                   | 0                         | Bradley Petroleum Inc.           |
| 0                | —               | —                   | 0                           | 3                | 3               | —                   | 0                         | Bray Terminals, Inc.             |
| —                | —               | —                   | —                           | —                | —               | —                   | —                         | Brennan Petroleum Corp.          |
| 2                | 2               | —                   | —                           | 2                | 2               | —                   | —                         | Broken Hill Proprietary/Pacific  |
| 2                | 2               | —                   | 0                           | 0                | —               | —                   | 0                         | Resources dba Gas Express        |
| 5                | —               | —                   | —                           | —                | —               | —                   | —                         | Browning Oil Co.                 |
| 1                | 1               | —                   | —                           | 0                | —               | —                   | —                         | Buhrmaster Energy Group          |
| 1                | —               | —                   | —                           | 0                | —               | —                   | —                         | Dennis K. Burke, Inc.            |
| 1                | —               | —                   | 0                           | 0                | —               | —                   | 0                         | Bursaw Oil Corp.                 |
| 3                | —               | —                   | —                           | —                | —               | —                   | —                         | By-Lo Oil Co.                    |
| —                | —               | —                   | —                           | —                | —               | —                   | —                         | Campbell Oil Co.                 |
| 1                | 1               | —                   | —                           | 0                | —               | —                   | 0                         | Cannon Oil Corp.                 |
| —                | —               | —                   | 833                         | 7                | 6               | 1                   | —                         | Cel Oil Products Corp.           |
| 10               | —               | —                   | —                           | 1                | —               | —                   | —                         | Canex                            |
| N/A              | —               | —                   | N/A                         | N/A              | —               | —                   | N/A                       | Certified Oil Co.                |
| —                | 2               | —                   | —                           | —                | —               | —                   | —                         | Champlain Oil Co.                |
| 868              | 0               | 0                   | 868                         | 118              | 87              | 1                   | 30                        | Champion Inc.                    |
| 0                | —               | —                   | —                           | 0                | —               | —                   | —                         | Chevron Corp.                    |
| 0                | —               | —                   | N/A                         | 51               | 51              | 0                   | N/A                       | Circle K Corp.                   |
| —                | —               | —                   | —                           | 14               | 14              | —                   | —                         | Citgo Petroleum Corp.            |
| 10               | 2               | 8                   | 0                           | 237              | 49              | 188                 | 0                         | Clark Oil & Refining Corp.       |
| 1                | 1               | —                   | —                           | 2                | —               | —                   | —                         | The Coastal Corp.                |
| 1                | —               | —                   | 0                           | 0                | —               | —                   | 0                         | The Coen Company                 |
| 0                | —               | —                   | 0                           | 0                | —               | —                   | 0                         | Colonial Oil Industries Inc.     |
| —                | —               | —                   | —                           | —                | —               | —                   | —                         | Comet Oil Co.                    |
| 126              | 0               | 0                   | 126                         | 401              | 51              | 350                 | 0                         | Como Oil Co.                     |
| 0                | —               | —                   | 0                           | 0                | —               | —                   | —                         | Conoco                           |
| —                | —               | —                   | —                           | —                | —               | —                   | —                         | Consumers Gasoline Stations Inc. |
| 0                | —               | —                   | —                           | 1                | 1               | —                   | N/A                       | Consumers Oil                    |
| —                | —               | —                   | —                           | —                | —               | —                   | —                         | Convenient Petroleum Corp.       |
| 0                | —               | —                   | —                           | 15               | 15              | —                   | 0                         | Cook & Cooley, Inc.              |
| 4                | 1               | 3                   | 0                           | 0                | —               | —                   | 0                         | Crown Central Petroleum Corp.    |
| 3                | 1               | 2                   | 1                           | 0                | N/A             | N/A                 | 0                         | Crystal Flash Petroleum          |
| 2                | 2               | —                   | —                           | —                | —               | —                   | —                         | Curtis Parker Oil Co. Inc.       |
| 2                | 2               | —                   | —                           | 1                | 1               | —                   | —                         | K.E. David, Ltd.                 |
| 0                | —               | —                   | 12                          | 14               | 14              | —                   | 0                         | DeBlasi Oil Co.                  |
| 2                | 2               | —                   | —                           | 1                | 1               | —                   | —                         | Diamond Shamrock, Inc.           |
| —                | —               | —                   | —                           | —                | —               | —                   | —                         | Dickey Inc.                      |
| 0                | —               | —                   | —                           | 0                | —               | —                   | —                         | Drakes Refinery Stations, Inc.   |
| 9                | 8               | 1                   | 1                           | 1                | 1               | —                   | —                         | East Coast Oil Corp.             |
| 1                | 1               | —                   | 0                           | 1                | 1               | —                   | 0                         | Engelfield Oil Co.               |
| 0                | —               | —                   | —                           | 51               | 51              | 0                   | N/A                       | Este Oil Co.                     |
| 3                | 3               | —                   | —                           | 1                | 1               | —                   | —                         | Exxon Co., USA                   |
| 550              | —               | —                   | 550                         | 0                | —               | —                   | 0                         | Farm & Home Oil Co.              |
| —                | —               | —                   | —                           | —                | —               | —                   | —                         | Farmland Industries              |
| 0                | —               | —                   | —                           | 3                | —               | —                   | 0                         | Fleetman, Inc. dba Fuelman       |
| 1                | 1               | —                   | 0                           | —                | —               | —                   | —                         | Flying J Inc.                    |
| 2                | 2               | —                   | 0                           | 0                | —               | —                   | 0                         | Fortmeyer Inc.                   |
| —                | —               | —                   | —                           | —                | —               | —                   | —                         | Friends Convenience Stores       |
| 3                | 3               | —                   | 0                           | 0                | —               | —                   | 0                         | Fuel-Link, Inc.                  |
| —                | —               | —                   | —                           | —                | —               | —                   | —                         | H.N. Funkhouser & Co.            |
| —                | —               | —                   | —                           | —                | 27              | —                   | —                         | General Oil Co.                  |
| —                | —               | —                   | —                           | —                | —               | —                   | —                         | Getty Petroleum Corp.            |
| —                | —               | —                   | —                           | —                | —               | —                   | —                         | Giant Industries, Inc.           |

# How Oil Companies Handle

## Branded Service Stations

| Company                           | Total Branded Retail Outlets | Number of States Where Gasoline Brand Is Marketed (a) | Supplied Directly | Supplied Through Jobbers and Commissioned Agents | Leasee/Dealer-Operated | Salary-Operated |
|-----------------------------------|------------------------------|-------------------------------------------------------|-------------------|--------------------------------------------------|------------------------|-----------------|
| Global Petroleum Corp.            | 137                          | 10                                                    | 137               | —                                                | —                      | 117             |
| Golden Gate Petroleum Co.         | 5                            | 1                                                     | —                 | 5                                                | —                      | —               |
| Golub Corp.                       | 13                           | 3                                                     | 12                | 1                                                | 1                      | 12              |
| Gresham Petroleum Co.             | 33                           | 1                                                     | 33                | —                                                | 7                      | 20              |
| Jack Griffith Petroleum           | 13                           | 1                                                     | 13                | —                                                | —                      | 13              |
| Gulf Oil                          | 3,994                        | 14                                                    | 1,798             | 2,196                                            | 1,048                  | 750             |
| Harris Enterprises, Inc.          | 24                           | 2                                                     | 24                | —                                                | 16                     | 4               |
| Hawaiian Independent Refinery     | 25                           | 1                                                     | 25                | —                                                | —                      | 25              |
| Highway Oil, Inc.                 | 176                          | 22                                                    | 176               | —                                                | —                      | 151             |
| Angus I. Hines, Inc.              | 53                           | 3                                                     | —                 | —                                                | —                      | —               |
| Barney Holland Oil Co.            | 90                           | 1                                                     | 90                | —                                                | 90                     | —               |
| Horkey Oil Co. Inc.               | 32                           | 1                                                     | —                 | 32                                               | —                      | —               |
| Horn Distributing Co., Inc.       | 21                           | 1                                                     | —                 | —                                                | 12                     | 4               |
| Hough Petroleum                   | 60                           | 2                                                     | 60                | —                                                | —                      | —               |
| Huck's Convenience Stores         | 100                          | 5                                                     | 95                | 5                                                | —                      | 100             |
| Hudson Oil Co.                    | 11                           | 2                                                     | 11                | —                                                | —                      | 11              |
| Hull Oil Co.                      | 29                           | 2                                                     | 17                | 12                                               | —                      | 6               |
| Hunt Refining Co.                 | 84                           | 2                                                     | —                 | 2                                                | 10                     | —               |
| Imperial Oil Co.                  | 40                           | 2                                                     | 40                | —                                                | —                      | —               |
| Jacobus Petroleum Products, Inc.  | 42                           | 1                                                     | 42                | —                                                | 33                     | 9               |
| J.D. Street & Co. Inc.            | 71                           | 4                                                     | 56                | 15                                               | —                      | —               |
| J & L Oil Inc.                    | 56                           | 3                                                     | 56                | —                                                | —                      | 54              |
| Johnson Products, Inc.            | 65                           | 6                                                     | 65                | —                                                | —                      | 41              |
| JS & J Service, Inc.              | 3                            | 2                                                     | 3                 | —                                                | —                      | —               |
| Kelley Williamson Co.             | 40                           | 2                                                     | 40                | 0                                                | 16                     | 24              |
| Kelso Oil Co. Inc. dba Pride Oil  | 12                           | 1                                                     | 12                | —                                                | 10                     | 2               |
| Kent Distributors, Inc.           | 8                            | 1                                                     | 3                 | —                                                | —                      | 8               |
| Kerr-McGee Refining Corp.         | 1,588                        | 20                                                    | 101               | 1,487                                            | 2                      | 99              |
| Kimber Petroleum Corp.            | 65                           | 1                                                     | 65                | —                                                | 48                     | 17              |
| Kocolene Oil Corp.                | 73                           | 4                                                     | 73                | —                                                | —                      | 73              |
| Kwik Shop                         | 210                          | 5                                                     | 188               | —                                                | —                      | —               |
| Lakeside Oil Co. Inc.             | 130                          | 1                                                     | —                 | 25                                               | —                      | —               |
| Carlos R. Leffler                 | 200                          | 1                                                     | 120               | —                                                | 60                     | 60              |
| H.C. Lewis Oil Co.                | 27                           | 1                                                     | 27                | —                                                | —                      | 5               |
| Lyden Co.                         | 153                          | 1                                                     | —                 | —                                                | 83                     | 70              |
| Marathon Petroleum Co.            | 2,132                        | 9                                                     | 504               | 1,628                                            | 504                    | —               |
| Martin Oil Marketing, Ltd.        | 43                           | 2                                                     | 43                | —                                                | —                      | 43              |
| Mauger & Co.                      | 40                           | 1                                                     | —                 | —                                                | —                      | —               |
| McDowell Oil Service Inc.         | 28                           | 1                                                     | 28                | —                                                | —                      | 28              |
| McLeleer Oil, Inc.                | 55                           | 1                                                     | —                 | —                                                | —                      | —               |
| Merchants Oil, Inc.               | 49                           | 1                                                     | 49                | —                                                | 23                     | 11              |
| Merritt Truax, Inc.               | 84                           | 3                                                     | 54                | 27                                               | 36                     | 44              |
| MFA Oil Co.                       | 200                          | 1                                                     | 200               | —                                                | 134                    | 66              |
| Mid-Missouri Oil Co.              | 15                           | 1                                                     | 3                 | —                                                | 3                      | —               |
| Mid-States Petroleum              | 121                          | 3                                                     | 121               | —                                                | 78                     | 38              |
| Midwest Petroleum Co.             | 111                          | 2                                                     | 111               | —                                                | 58                     | 53              |
| Miller Enterprises Inc.           | 121                          | 1                                                     | 112               | 9                                                | —                      | —               |
| Miller Oil Co.                    | 85                           | 2                                                     | 85                | —                                                | 27                     | 34              |
| Mini-Mart Inc.                    | 118                          | 7                                                     | 96                | 22                                               | —                      | 118             |
| Missouri Terminal Oil Co.         | 8                            | 1                                                     | 2                 | 6                                                | 2                      | —               |
| Mobil Oil Co.                     | 9,001                        | 33                                                    | 4,277             | 4,725                                            | 2,431                  | 892             |
| Moto, Inc. (FKG Oil Co.)          | 51                           | 6                                                     | 51                | —                                                | —                      | —               |
| Munro Petroleum Terminal Corp.    | 36                           | 1                                                     | 36                | —                                                | 7                      | 18              |
| Murphy Oil USA, Inc.              | 638                          | 14                                                    | —                 | —                                                | —                      | —               |
| Musket Corp.                      | 125                          | 6                                                     | 125               | —                                                | —                      | 125             |
| National Convenience Stores, Inc. | 871                          | 4                                                     | 855               | 16                                               | —                      | 855             |
| National Oil & Gas Inc.           | 95                           | 2                                                     | —                 | —                                                | —                      | —               |
| Neal, Inc.                        | 25                           | 1                                                     | 25                | —                                                | —                      | 25              |
| Nella Oil Co.                     | 25                           | 2                                                     | 25                | —                                                | —                      | 25              |
| Newell Oil Co., Inc.              | 13                           | 1                                                     | —                 | —                                                | —                      | —               |
| Northville Industries Corp.       | 110                          | 2                                                     | 110               | —                                                | 101                    | 9               |
| Pal Oil Company Inc.              | 85                           | 1                                                     | 85                | —                                                | 71                     | 8               |
| Parker Oil Co. Inc.               | 81                           | 3                                                     | 81                | —                                                | 75                     | 6               |
| Patterson Oil Co., Inc.           | 32                           | 1                                                     | 32                | —                                                | 18                     | 14              |
| PDQ Food Stores, Inc.             | 66                           | 3                                                     | —                 | —                                                | —                      | —               |
| Peavy Oil Co.                     | 7                            | 1                                                     | —                 | —                                                | 3                      | 3               |
| Pennzoli Products Co.             | 600                          | 5                                                     | —                 | —                                                | —                      | —               |
| Petro USA                         | 40                           | 1                                                     | —                 | —                                                | —                      | —               |
| Petroleum Marketers, Inc.         | 137                          | 3                                                     | 137               | —                                                | 84                     | 53              |
| Petroleum Products Corp.          | 57                           | 3                                                     | —                 | 57                                               | —                      | —               |
| Phillips 66 Co.                   | 7,907                        | 29                                                    | 7,907             | —                                                | —                      | —               |
| Plasma Motor Fuels Inc.           | 19                           | 2                                                     | 19                | —                                                | 13                     | 4               |
| Pilot Corp.                       | 85                           | 21                                                    | —                 | —                                                | —                      | —               |
| Pride Oil Co. Inc. (Miss.)        | 17                           | 2                                                     | 17                | —                                                | —                      | 3               |

## Product Distribution (Cont.)

## Branded Jobbers/Commissioned Agents

| Commission-operated | Full-service only | Self-service only | Self-service Full-service | Total | Number selling . . . |               |                   |
|---------------------|-------------------|-------------------|---------------------------|-------|----------------------|---------------|-------------------|
|                     |                   |                   |                           |       | Gasoline only        | Fuel oil only | Gasoline/Fuel oil |
| 20                  | —                 | 95                | 42                        | —     | —                    | —             | —                 |
| —                   | —                 | —                 | 5                         | 0     | —                    | —             | —                 |
| —                   | 2                 | 11                | —                         | 1     | —                    | —             | 1                 |
| 6                   | —                 | 27                | 6                         | N/A   | —                    | —             | —                 |
| —                   | —                 | 13                | —                         | —     | —                    | —             | —                 |
| —                   | 2,129             | 1,062             | 803                       | 140   | 89                   | —             | 51                |
| 4                   | 24                | —                 | —                         | 16    | 16                   | —             | —                 |
| —                   | —                 | 25                | —                         | 0     | —                    | —             | —                 |
| 25                  | —                 | 25                | 151                       | 0     | —                    | —             | —                 |
| —                   | —                 | —                 | —                         | —     | —                    | —             | —                 |
| —                   | —                 | —                 | —                         | 1     | —                    | —             | 1                 |
| —                   | 0                 | 27                | 5                         | 1     | 1                    | —             | —                 |
| 5                   | —                 | 6                 | 15                        | —     | —                    | —             | —                 |
| 7                   | 60                | —                 | —                         | 0     | —                    | —             | —                 |
| —                   | —                 | 100               | —                         | 100   | 99                   | —             | 1                 |
| —                   | —                 | 3                 | 8                         | —     | —                    | —             | —                 |
| 11                  | —                 | 22                | 5                         | 1     | —                    | —             | 1                 |
| 2                   | 4                 | 80                | —                         | 13    | —                    | —             | 13                |
| —                   | —                 | 40                | —                         | —     | —                    | —             | —                 |
| —                   | —                 | 32                | 10                        | 5     | —                    | 2             | 3                 |
| —                   | —                 | —                 | —                         | 1     | —                    | —             | 1                 |
| 2                   | 1                 | 55                | —                         | —     | —                    | —             | —                 |
| 25                  | 16                | 25                | 25                        | 25    | 25                   | —             | —                 |
| —                   | —                 | —                 | 3                         | —     | —                    | —             | —                 |
| —                   | 8                 | 28                | 4                         | 3     | —                    | —             | 3                 |
| —                   | —                 | 11                | 1                         | 0     | —                    | —             | —                 |
| —                   | —                 | 8                 | —                         | —     | 8                    | —             | —                 |
| —                   | 102               | 792               | 694                       | 463   | 37                   | 1             | 425               |
| —                   | 65                | —                 | —                         | 0     | —                    | —             | —                 |
| —                   | —                 | 8                 | 65                        | 0     | —                    | —             | —                 |
| —                   | —                 | —                 | 25                        | 0     | —                    | —             | —                 |
| —                   | 20                | 85                | 15                        | 5     | —                    | —             | 5                 |
| —                   | —                 | 10                | 17                        | 0     | —                    | —             | —                 |
| —                   | —                 | 70                | 83                        | —     | —                    | —             | —                 |
| —                   | 213               | 320               | 1,599                     | 262   | —                    | —             | 262               |
| —                   | —                 | 43                | —                         | —     | —                    | —             | —                 |
| —                   | —                 | —                 | —                         | —     | —                    | —             | —                 |
| —                   | —                 | 28                | —                         | —     | —                    | —             | —                 |
| —                   | —                 | —                 | —                         | —     | —                    | —             | —                 |
| 2                   | —                 | 24                | 25                        | —     | —                    | —             | —                 |
| 4                   | 40                | —                 | —                         | 0     | —                    | —             | —                 |
| —                   | 100               | 80                | 20                        | 7     | —                    | —             | 7                 |
| —                   | —                 | —                 | —                         | —     | —                    | —             | —                 |
| 5                   | 46                | 44                | 31                        | 7     | —                    | 1             | 6                 |
| —                   | 5                 | 36                | 70                        | 0     | —                    | —             | —                 |
| —                   | —                 | 121               | —                         | —     | —                    | —             | —                 |
| —                   | —                 | —                 | —                         | 0     | —                    | —             | —                 |
| 6                   | 2                 | 47                | 36                        | —     | —                    | —             | —                 |
| —                   | —                 | 118               | —                         | 0     | —                    | —             | —                 |
| —                   | —                 | —                 | 2                         | 2     | —                    | —             | 2                 |
| 0                   | N/A               | N/A               | N/A                       | 1,080 | 0                    | 650           | 430               |
| —                   | —                 | —                 | —                         | 0     | —                    | —             | —                 |
| 11                  | —                 | 24                | 12                        | —     | —                    | —             | —                 |
| —                   | —                 | —                 | —                         | —     | —                    | —             | —                 |
| —                   | 2                 | 123               | —                         | 0     | —                    | —             | —                 |
| —                   | —                 | 855               | —                         | 0     | —                    | —             | —                 |
| —                   | —                 | 25                | —                         | —     | —                    | —             | —                 |
| —                   | —                 | 25                | —                         | —     | —                    | —             | —                 |
| —                   | —                 | —                 | —                         | —     | —                    | —             | —                 |
| —                   | 70                | 40                | —                         | 0     | —                    | —             | —                 |
| 6                   | 12                | 70                | 3                         | —     | —                    | —             | —                 |
| —                   | 2                 | 70                | 9                         | 0     | —                    | —             | —                 |
| 0                   | 6                 | 13                | 10                        | 0     | —                    | —             | —                 |
| —                   | —                 | 66                | —                         | —     | —                    | —             | —                 |
| 1                   | 7                 | —                 | —                         | 0     | —                    | —             | —                 |
| —                   | —                 | —                 | —                         | —     | —                    | —             | —                 |
| —                   | —                 | —                 | —                         | 10    | —                    | —             | —                 |
| —                   | —                 | 129               | 8                         | 0     | —                    | —             | —                 |
| —                   | —                 | —                 | 57                        | —     | 9                    | 8             | —                 |
| —                   | —                 | —                 | —                         | 1,106 | 32                   | —             | 1,074             |
| 2                   | —                 | 9                 | 10                        | 0     | —                    | —             | —                 |
| —                   | —                 | —                 | —                         | —     | —                    | —             | —                 |
| 14                  | —                 | 16                | 1                         | 0     | —                    | —             | —                 |



| Bulk Plants      |                 |                     |                             | Terminals        |                 |                     |                           | Company                           |
|------------------|-----------------|---------------------|-----------------------------|------------------|-----------------|---------------------|---------------------------|-----------------------------------|
| Company-operated |                 |                     |                             | Company-operated |                 |                     |                           |                                   |
| Total            | Salary-operated | Commission-operated | Jobber-operated Bulk plants | Total            | Salary-operated | Commission-operated | Jobber-operated Terminals |                                   |
| 7                | 7               | —                   | 0                           | 44               | 5               | —                   | —                         | Global Petroleum Corp.            |
| 0                | —               | —                   | 1                           | 0                | —               | —                   | 0                         | Golden Gate Petroleum Corp.       |
| 5                | 5               | —                   | N/A                         | 0                | —               | —                   | 1                         | Golub Corp.                       |
| 0                | —               | —                   | —                           | 19               | 19              | —                   | N/A                       | Gresham Petroleum Co.             |
| 0                | —               | —                   | 0                           | 0                | —               | —                   | —                         | Jack Griffith Petroleum           |
| 0                | —               | —                   | 0                           | 4                | 4               | —                   | 0                         | Gulf Oil                          |
| 0                | —               | —                   | 0                           | 0                | —               | —                   | 0                         | Harrie Enterprises Inc.           |
| 2                | 1               | —                   | 1                           | 0                | —               | —                   | —                         | Hawaiian Independent Refinery     |
| 2                | 2               | —                   | 2                           | 2                | 2               | —                   | 2                         | Highway Oil, Inc.                 |
| 1                | 0               | 0                   | 0                           | 0                | —               | —                   | 0                         | Angus I. Hines, Inc.              |
| 0                | —               | —                   | —                           | —                | —               | —                   | —                         | Barney Holland Oil Co.            |
| 0                | —               | —                   | —                           | —                | —               | —                   | —                         | Horkey Oil Co., Inc.              |
| 2                | —               | —                   | —                           | 0                | —               | —                   | —                         | Horn Distributing Co., Inc.       |
| 2                | —               | —                   | —                           | 0                | —               | —                   | —                         | Hough Petroleum                   |
| —                | —               | —                   | —                           | —                | —               | —                   | —                         | Huck's Convenience Stores         |
| 0                | —               | —                   | 1                           | 0                | —               | —                   | 0                         | Hudson Oil Co.                    |
| —                | —               | —                   | —                           | 0                | —               | —                   | —                         | Hull Oil Co.                      |
| 2                | —               | —                   | —                           | 0                | —               | —                   | —                         | Hunt Refining Co.                 |
| —                | —               | —                   | —                           | 2                | 2               | —                   | —                         | Imperial Oil Co.                  |
| —                | —               | —                   | —                           | 2                | —               | —                   | —                         | Jacobus Petroleum Products, Inc.  |
| 0                | —               | —                   | 0                           | 0                | —               | —                   | —                         | J.D. Street & Co. Inc.            |
| —                | —               | —                   | —                           | —                | —               | —                   | —                         | J&L Oil Inc.                      |
| 0                | —               | —                   | —                           | 0                | —               | —                   | —                         | Johnson Products, Inc.            |
| 4                | 2               | 2                   | 0                           | 0                | —               | —                   | 0                         | JS&J Service, Inc.                |
| 0                | —               | —                   | 0                           | —                | —               | —                   | —                         | Kelley Williamson Co.             |
| —                | —               | —                   | —                           | 0                | —               | —                   | 0                         | Kelso Oil Co., Inc. dba Pride Oil |
| 299              | —               | —                   | 299                         | 18               | 16              | —                   | 2                         | Kent Distributors, Inc.           |
| 0                | —               | —                   | —                           | 0                | —               | —                   | —                         | Kerr-McGee Refining Corp.         |
| 0                | —               | —                   | 0                           | 0                | —               | —                   | 0                         | Kimber Petroleum Corp.            |
| 0                | —               | —                   | —                           | —                | —               | —                   | —                         | Kocolene Oil Corp.                |
| 0                | —               | —                   | —                           | 3                | —               | —                   | —                         | Kwik Shop, Inc.                   |
| 3                | 3               | —                   | 3                           | 3                | 3               | —                   | 3                         | Lakeside Oil Co., Inc.            |
| 2                | 2               | —                   | 0                           | 0                | —               | —                   | 0                         | Carlos R. Leffler                 |
| 3                | —               | —                   | —                           | —                | —               | —                   | —                         | H.C. Lewis Oil Co.                |
| 326              | —               | —                   | 326                         | 44               | 44              | —                   | N/A                       | Lyden Co.                         |
| —                | —               | —                   | —                           | 3                | 3               | —                   | —                         | Marathon Petroleum Co.            |
| —                | —               | —                   | —                           | —                | —               | —                   | —                         | Martin Oil Marketing, Ltd.        |
| —                | —               | —                   | —                           | —                | —               | —                   | —                         | Mauger & Co.                      |
| —                | 3               | —                   | 0                           | —                | —               | —                   | —                         | McDowell Oil Service Inc.         |
| —                | 1               | —                   | —                           | —                | —               | —                   | —                         | McLeeler Oil Inc.                 |
| 2                | 2               | —                   | 0                           | 0                | —               | —                   | 0                         | Merchants Oil, Inc.               |
| 125              | 115             | 10                  | 7                           | 0                | —               | —                   | 0                         | Merritt Traux, Inc.               |
| 11               | 7               | 0                   | 4                           | 1                | —               | 1                   | —                         | MFA Oil Co.                       |
| 0                | —               | —                   | 0                           | 0                | —               | —                   | 0                         | Mid-Missouri Oil Co.              |
| 3                | 3               | —                   | —                           | 1                | 1               | —                   | —                         | Mid-States Petroleum              |
| 0                | —               | —                   | 0                           | 0                | —               | —                   | 0                         | Midwest Petroleum Co.             |
| 0                | —               | —                   | 0                           | 1                | 1               | —                   | —                         | Miller Enterprises, Inc.          |
| 3                | 0               | 2                   | 1                           | 61               | 61              | 0                   | 0                         | Miller Oil Co.                    |
| 0                | —               | —                   | —                           | 0                | —               | —                   | —                         | Mini-Mart, Inc.                   |
| —                | —               | —                   | —                           | 1                | 1               | —                   | —                         | Missouri Terminal Oil Co.         |
| —                | —               | —                   | —                           | 7                | —               | —                   | —                         | Mobil Oil Corp.                   |
| 0                | —               | —                   | 0                           | 0                | —               | —                   | —                         | Moto, Inc.                        |
| 0                | —               | —                   | 0                           | 0                | —               | —                   | 0                         | Munro Petroleum Terminal Corp.    |
| 0                | —               | —                   | 0                           | 0                | —               | —                   | 0                         | Murphy Oil USA, Inc.              |
| 0                | —               | —                   | —                           | —                | —               | —                   | —                         | Musket Corp.                      |
| 0                | —               | —                   | —                           | —                | —               | —                   | —                         | National Convenience Stores, Inc. |
| 0                | —               | —                   | —                           | —                | —               | —                   | —                         | National Oil & Gas Inc.           |
| —                | —               | —                   | 0                           | —                | —               | —                   | —                         | Neal, Inc.                        |
| —                | —               | —                   | —                           | —                | —               | —                   | —                         | Nella Oil Co.                     |
| 0                | —               | —                   | —                           | 4                | 4               | —                   | 0                         | Newell Oil Co., Inc.              |
| 2                | 2               | —                   | —                           | —                | —               | —                   | —                         | Northville Industries Corp.       |
| 11               | 11              | —                   | 0                           | 1                | 1               | —                   | 0                         | Pal Oil Company, Inc.             |
| 1                | —               | —                   | —                           | —                | 0               | —                   | —                         | Parker Oil Co., Inc.              |
| 1                | 1               | —                   | 0                           | 0                | —               | —                   | 0                         | Patterson Oil Co., Inc.           |
| —                | —               | —                   | —                           | —                | —               | —                   | —                         | PDQ Food Stores, Inc.             |
| —                | —               | —                   | —                           | —                | —               | —                   | —                         | Peavy Oil Co.                     |
| 7                | 7               | —                   | 7                           | 0                | —               | —                   | 0                         | Pennzoll Products Co.             |
| —                | —               | —                   | —                           | —                | —               | —                   | —                         | Petro USA                         |
| —                | —               | —                   | —                           | —                | —               | —                   | —                         | Petroleum Marketers, Inc.         |
| —                | —               | —                   | —                           | —                | —               | —                   | —                         | Petroleum Products Corp.          |
| 1                | 1               | —                   | 0                           | 0                | —               | —                   | 0                         | Phillips 66 Co.                   |
| 0                | —               | —                   | 0                           | —                | —               | —                   | —                         | Plaza Motor Fuels, Inc.           |
| 0                | —               | —                   | 0                           | 0                | —               | —                   | 0                         | Pilot Corp.                       |
| 0                | —               | —                   | 0                           | 0                | —               | —                   | 0                         | Pride Oil Co., Inc. (Miss.)       |

## How Oil Companies Handle

## Branded Service Stations

| Company                            | Total Branded Retail Outlets | Number of States Where Gasoline Brand Is Marketed (a) | Supplied Directly | Supplied Through Jobbers and Commissioned Agents | Leasee/Dealer-Operated | Salary-Operated |
|------------------------------------|------------------------------|-------------------------------------------------------|-------------------|--------------------------------------------------|------------------------|-----------------|
| Private Brand Services Inc.        | 1                            | 1                                                     | 1                 | —                                                | 1                      | —               |
| Pyramid Oil Co.                    | 30                           | 1                                                     | 27                | 3                                                | 26                     | 1               |
| Quality Oil Co.                    | 115                          | 1                                                     | 115               | —                                                | 75                     | 40              |
| Quarles Petroleum                  | 50                           | 3                                                     | 50                | —                                                | —                      | —               |
| Quicktrip Corp.                    | 278                          | 6                                                     | 278               | —                                                | —                      | 278             |
| Red Hed Oil Co., Inc.              | 34                           | 1                                                     | 34                | —                                                | 8                      | 9               |
| Reinauer Petroleum Co.             | 7                            | 1                                                     | 7                 | —                                                | 7                      | —               |
| Remote Services, Inc.              | 451                          | 15                                                    | 16                | 12                                               | 19                     | 9               |
| Reynolds Industries, Inc.          | 5                            | —3                                                    | —                 | 5                                                | —                      | 5               |
| Rich Oil, Inc.                     | 80                           | 3                                                     | 80                | —                                                | —                      | —               |
| River Oil Co.                      | 40                           | 2                                                     | 9                 | —                                                | 9                      | —               |
| Roach Oil Co.                      | 10                           | 2                                                     | 10                | —                                                | 5                      | 5               |
| Robinson Oil Co. Inc.              | 24                           | 1                                                     | 24                | —                                                | —                      | 24              |
| Royaster Oil Co., Inc.             | 24                           | 1                                                     | —                 | 24                                               | —                      | —               |
| Russell Petroleum Corp.            | 14                           | 1                                                     | 33                | —                                                | —                      | —               |
| Sahara Oil Co., Inc.               | 26                           | 1                                                     | —                 | 26                                               | 7                      | 16              |
| Santee Oil Co., Inc.               | 9                            | 1                                                     | 9                 | —                                                | 5                      | 4               |
| Save-X USA, Inc.                   | 10                           | 1                                                     | 10                | —                                                | —                      | 10              |
| SCASCO                             | 40                           | 1                                                     | 40                | —                                                | 26                     | 4               |
| Schaeffer Oil, Inc.                | 7                            | 2                                                     | —                 | —                                                | —                      | —               |
| Sears Oil Co. Inc.                 | 10                           | 1                                                     | 10                | —                                                | 1                      | 9               |
| Shay Oil Co., Inc.                 | 18                           | 1                                                     | —                 | 18                                               | 2                      | 16              |
| Shelby Petroleum Corp.             | 20                           | 2                                                     | 20                | —                                                | —                      | —               |
| Shell Oil Co.                      | 9,389                        | 41                                                    | 4,390             | 4,999                                            | 4,114                  | 276             |
| Shotmeyer Bros. Petroleum Corp.    | 64                           | 1                                                     | 64                | —                                                | 41                     | —               |
| SICO Co.                           | 123                          | 3                                                     | 123               | —                                                | 51                     | 26              |
| Sinclair Oil Corp.                 | 2,612                        | 20                                                    | 300               | 2,300                                            | 50                     | 250             |
| R.L. Smeltz Oil Co., Inc.          | 21                           | 1                                                     | 21                | —                                                | 12                     | —               |
| Smith-Schafer Oil Co.              | 4                            | 1                                                     | 4                 | —                                                | —                      | 4               |
| SOS Oil Corp.                      | 55                           | 1                                                     | 55                | —                                                | 55                     | —               |
| Southern Counties Oil Co.          | 10                           | 1                                                     | 10                | —                                                | —                      | 9               |
| Southern Oil Co., Inc.             | 10                           | 1                                                     | 10                | —                                                | 2                      | 7               |
| The Spencer Cos.                   | 56                           | 1                                                     | 56                | —                                                | 14                     | 14              |
| Star Oil Co.                       | 22                           | 1                                                     | 22                | —                                                | 16                     | —               |
| Steuart Petroleum Co.              | 68                           | 6                                                     | 68                | —                                                | —                      | —               |
| Stevens Oil Co.                    | 53                           | 1                                                     | 17                | —                                                | —                      | —               |
| Sugarcreek Corp.                   | 320                          | 1                                                     | 320               | —                                                | 170                    | 100             |
| Sumrall Oil Services, Inc.         | 15                           | 1                                                     | 15                | —                                                | —                      | —               |
| Sun Refining & Marketing Co.       | 6,019                        | 28                                                    | 2,694             | 3,325                                            | 2,249                  | 445             |
| Sunshine Jr. Stores, Inc.          | 297                          | 5                                                     | 273               | 24                                               | —                      | 273             |
| Taylor Oil Co.                     | 60                           | 2                                                     | 60                | —                                                | —                      | —               |
| Tesoro Petroleum Corp.             | 132                          | 1                                                     | 12                | 120                                              | 132                    | 0               |
| Texaco Inc.                        | 15,111                       | 49                                                    | 3,226             | 11,885                                           | 1,821                  | 1,140           |
| Thornhill Oil Co., Inc.            | 29                           | 1                                                     | 29                | —                                                | 20                     | 9               |
| Thornton Oil Corp.                 | 110                          | 6                                                     | 110               | —                                                | 5                      | 105             |
| Thrifty Oil Co.                    | 250                          | 1                                                     | —                 | —                                                | —                      | —               |
| Time Saver Store                   | 26                           | 1                                                     | —                 | 26                                               | —                      | 26              |
| TOC Retail, Inc., dba Majik Market | 389                          | 11                                                    | 304               | 16                                               | 0                      | 320             |
| Tooley Oil Co.                     | 6                            | 1                                                     | 6                 | —                                                | —                      | 6               |
| Tosco Corp.                        | 0                            | 0                                                     | —                 | —                                                | —                      | —               |
| Total Petroleum, Inc.              | 2,698                        | 22                                                    | 700               | 1,998                                            | 70                     | 617             |
| Transit Oil Co.                    | 18                           | 2                                                     | 18                | —                                                | —                      | 16              |
| Trenton Oil Co.                    | 31                           | 1                                                     | 31                | —                                                | 17                     | —               |
| Ultramar                           | 400                          | 1                                                     | 350               | 50                                               | 25                     | 175             |
| UltraPower Corp.                   | 5                            | 1                                                     | 3                 | —                                                | 1                      | —               |
| Uni-Marts, Inc.                    | 205                          | 4                                                     | 205               | —                                                | —                      | 205             |
| United Refining Co.                | 343                          | 3                                                     | 342               | 1                                                | —                      | 343             |
| Unocal Corp.                       | 7,431(f)                     | 41                                                    | 2,586             | 4,845                                            | 2,482                  | 104             |
| V-1 Oil Co.                        | 36                           | 6                                                     | —                 | —                                                | 4                      | 22              |
| Vista Marketing Group Ltd.         | 16                           | 4                                                     | —                 | —                                                | —                      | —               |
| Waco Oil Co., Inc.                 | 16                           | 2                                                     | 16                | —                                                | —                      | 16              |
| Wake Up Oil Co., Inc.              | 39                           | 1                                                     | 39                | —                                                | 1                      | 38              |
| Warelubco, Inc.                    | 104                          | 5                                                     | 104               | 0                                                | 1                      | 103             |
| Warren Equities, Inc.              | 198                          | 8                                                     | 237               | 4                                                | 43                     | 198             |
| Webster Oil Co.                    | 10                           | 1                                                     | 10                | —                                                | —                      | —               |
| Weason Inc.                        | 40                           | 1                                                     | 40                | —                                                | 25                     | 12              |
| A.T. Williams Oil Co.              | 97                           | 2                                                     | 97                | —                                                | —                      | 97              |
| J.H. Williams Oil Co., Inc.        | 86(g)                        | 1                                                     | 86                | 0                                                | 83                     | 3               |
| The Willie Group, Inc.             | 126                          | 3                                                     | —                 | —                                                | 66                     | 58              |
| Wooten Oil Co.                     | 52                           | 3                                                     | 52                | —                                                | —                      | 23              |
| Wright Industries, Inc.            | 24                           | 1                                                     | 24                | 0                                                | 24                     | 0               |

(f) Totals do not include those for the Uno-ven joint venture in the Midwest.

(g) Includes marinas.

## Product Distribution (Cont.)

## Branded Jobbers/Commissioned Agents

| Commission-<br>operated | Full-<br>service<br>only | Self-<br>service<br>only | Self-<br>service<br>Full-service | Total | Number selling . . . |                  |                       |
|-------------------------|--------------------------|--------------------------|----------------------------------|-------|----------------------|------------------|-----------------------|
|                         |                          |                          |                                  |       | Gasoline<br>only     | Fuel oil<br>only | Gasoline/<br>Fuel oil |
| —                       | —                        | 1                        | —                                | 0     | —                    | —                | —                     |
| —                       | 27                       | —                        | —                                | 0     | —                    | —                | —                     |
| —                       | 45                       | —                        | —                                | 0     | —                    | —                | —                     |
| —                       | —                        | —                        | —                                | —     | —                    | —                | —                     |
| —                       | —                        | 278                      | —                                | 0     | —                    | —                | —                     |
| 17                      | 3                        | 28                       | 3                                | 0     | —                    | —                | —                     |
| —                       | 7                        | —                        | —                                | —     | —                    | —                | —                     |
| —                       | —                        | 28                       | —                                | 0     | —                    | —                | —                     |
| —                       | 1                        | 1                        | —                                | 5     | —                    | 3                | 2                     |
| —                       | —                        | —                        | 80                               | —     | —                    | —                | —                     |
| —                       | —                        | —                        | 9                                | 1     | 1                    | —                | —                     |
| —                       | 2                        | 1                        | 7                                | 0     | —                    | —                | —                     |
| —                       | —                        | 24                       | —                                | 0     | —                    | —                | —                     |
| —                       | 4                        | 14                       | 6                                | 1     | —                    | —                | —                     |
| 9                       | —                        | —                        | 9                                | 9     | 8                    | —                | 1                     |
| 3                       | 1                        | 23                       | 2                                | 4     | 4                    | —                | —                     |
| —                       | —                        | 6                        | 3                                | —     | —                    | —                | —                     |
| —                       | —                        | 10                       | —                                | 0     | —                    | —                | —                     |
| 10                      | 6                        | 18                       | 16                               | —     | —                    | —                | —                     |
| —                       | —                        | —                        | —                                | 1     | —                    | —                | 1                     |
| —                       | —                        | 10                       | —                                | —     | —                    | —                | —                     |
| —                       | —                        | 18                       | —                                | —     | 16                   | —                | 2                     |
| —                       | 20                       | —                        | —                                | N/A   | —                    | —                | —                     |
| 0                       | 208                      | 1,735                    | 2,446                            | 380   | N/A                  | N/A              | N/A                   |
| 23                      | 64                       | —                        | —                                | 0     | —                    | —                | —                     |
| 46                      | 39                       | 84                       | —                                | 0     | —                    | —                | —                     |
| —                       | —                        | —                        | —                                | 1,100 | —                    | —                | 1,100                 |
| —                       | 15                       | 4                        | 2                                | 1     | —                    | —                | 1                     |
| —                       | —                        | 3                        | 1                                | 0     | —                    | —                | —                     |
| —                       | 30                       | —                        | 25                               | 0     | —                    | —                | —                     |
| 1                       | —                        | 10                       | —                                | —     | —                    | —                | —                     |
| 1                       | 3                        | 6                        | 1                                | 0     | —                    | —                | —                     |
| 20                      | 7                        | 45                       | 4                                | 2     | 2                    | —                | —                     |
| 6                       | —                        | 6                        | 16                               | 22    | 6                    | —                | 16                    |
| —                       | —                        | —                        | —                                | 0     | —                    | —                | —                     |
| —                       | —                        | —                        | —                                | —     | —                    | —                | —                     |
| 50                      | 140                      | 110                      | 70                               | 4     | 1                    | —                | 3                     |
| 15                      | —                        | 15                       | —                                | —     | —                    | —                | —                     |
| —                       | N/A                      | N/A                      | N/A                              | 3,222 | N/A                  | N/A              | N/A                   |
| —                       | —                        | 297                      | —                                | 5     | —                    | —                | 5                     |
| 60                      | —                        | 60                       | —                                | 0     | —                    | —                | —                     |
| —                       | —                        | 32                       | —                                | 12    | —                    | —                | 12                    |
| 265                     | 783                      | 5,975                    | 8,353                            | 1,219 | 0                    | 0                | 0                     |
| —                       | 1                        | 26                       | 2                                | —     | —                    | —                | —                     |
| —                       | 2                        | 108                      | —                                | —     | —                    | —                | —                     |
| —                       | —                        | —                        | —                                | —     | —                    | —                | —                     |
| —                       | —                        | 26                       | —                                | 0     | —                    | —                | —                     |
| 0                       | 0                        | 320                      | 0                                | 0     | —                    | —                | —                     |
| —                       | —                        | 6                        | —                                | 0     | —                    | —                | —                     |
| —                       | —                        | —                        | —                                | —     | —                    | —                | —                     |
| 13                      | 0                        | 2,498                    | 200                              | 2,080 | 13                   | —                | 2,067                 |
| —                       | —                        | 18                       | —                                | 1     | —                    | —                | —                     |
| 14                      | 31                       | —                        | —                                | N/A   | —                    | —                | —                     |
| —                       | —                        | 400                      | —                                | 10    | —                    | —                | 10                    |
| —                       | 1                        | 2                        | —                                | —     | —                    | —                | —                     |
| —                       | —                        | 205                      | —                                | 0     | —                    | —                | —                     |
| —                       | —                        | 185                      | —                                | 0     | —                    | —                | —                     |
| —                       | 158                      | —                        | —                                | —     | —                    | —                | —                     |
| —                       | 1,274                    | 677                      | 5,480                            | 267   | —                    | —                | 267                   |
| —                       | —                        | —                        | —                                | —     | —                    | —                | —                     |
| —                       | —                        | —                        | —                                | —     | —                    | —                | —                     |
| —                       | 1                        | 3                        | 35                               | 0     | —                    | —                | —                     |
| —                       | 0                        | 23                       | 81                               | 0     | —                    | —                | —                     |
| 0                       | 73                       | 158                      | 10                               | 0     | —                    | —                | —                     |
| —                       | 1                        | 8                        | 1                                | 0     | —                    | —                | —                     |
| 3                       | 10                       | 15                       | 15                               | 0     | —                    | —                | —                     |
| —                       | —                        | 97                       | —                                | —     | —                    | —                | —                     |
| 0                       | 19                       | 21                       | 46                               | 0     | 0                    | 0                | 0                     |
| 2                       | —                        | 110                      | 16                               | 2     | 2                    | —                | —                     |
| —                       | 7                        | 44                       | 1                                | 1     | 1                    | —                | —                     |
| 0                       | 2                        | 0                        | 22                               | 0     | —                    | —                | —                     |

| Bulk Plants |                  |                     |                             | Terminals |                  |                     |                           | Company                           |
|-------------|------------------|---------------------|-----------------------------|-----------|------------------|---------------------|---------------------------|-----------------------------------|
| Total       | Company-operated |                     |                             | Total     | Company-operated |                     |                           |                                   |
|             | Salary-operated  | Commission-operated | Jobber-operated Bulk plants |           | Salary-operated  | Commission-operated | Jobber-operated Terminals |                                   |
| 0           | —                | —                   | 0                           | 0         | —                | —                   | 0                         | Private Brand Services, Inc.      |
| 0           | —                | —                   | 0                           | —         | —                | —                   | 0                         | Pyramid Oil Co.                   |
| 4           | 4                | —                   | 0                           | 0         | —                | —                   | 0                         | Quality Oil Co.                   |
| 7           | —                | —                   | 7                           | 2         | —                | —                   | 2                         | Quarles Petroleum                 |
| 0           | —                | —                   | 0                           | 0         | —                | —                   | 0                         | Quiktrip Corp.                    |
| 0           | —                | —                   | 0                           | 0         | —                | —                   | 0                         | Red Hed Oil Co., Inc.             |
| 0           | —                | —                   | —                           | —         | —                | —                   | —                         | Reinauer Petroleum Co.            |
| 0           | —                | —                   | 0                           | 0         | —                | —                   | 0                         | Remote Services, Inc.             |
| 0           | —                | —                   | 0                           | 0         | —                | —                   | 0                         | Reynolds Industries, Inc.         |
| —           | —                | —                   | —                           | —         | —                | —                   | —                         | Rich Oil Inc.                     |
| 3           | 2                | 1                   | —                           | 0         | —                | —                   | —                         | River Oil Co.                     |
| 1           | 1                | —                   | 0                           | 0         | —                | —                   | 0                         | Roach Oil Co.                     |
| 0           | —                | —                   | —                           | 0         | —                | —                   | —                         | Robinson Oil Co., Inc.            |
| 3           | 3                | —                   | —                           | —         | —                | —                   | —                         | Royaster Oil Co., Inc.            |
| 1           | 1                | —                   | —                           | 1         | 1                | —                   | —                         | Russell Petroleum Corp.           |
| 2           | —                | 2                   | 2                           | 0         | —                | —                   | 0                         | Sahara Oil Co., Inc.              |
| 1           | 1                | —                   | —                           | —         | —                | —                   | —                         | Santee Oil Co., Inc.              |
| 1           | 1                | —                   | 0                           | 0         | —                | —                   | 0                         | Save-X USA, Inc.                  |
| 4           | —                | —                   | —                           | —         | —                | —                   | —                         | SCASCO                            |
| —           | —                | —                   | —                           | —         | —                | —                   | —                         | Schaeffer Oil, Inc.               |
| 1           | 1                | —                   | 1                           | 4         | 4                | —                   | —                         | Sears Oil Co., Inc.               |
| N/A         | N/A              | N/A                 | 455(h)                      | N/A       | 62               | 29                  | N/A                       | Shay Oil Co., Inc.                |
| N/A         | N/A              | N/A                 | —                           | 91        | —                | —                   | —                         | Shelby Petroleum Corp.            |
| 0           | —                | —                   | —                           | —         | —                | —                   | —                         | Shell Oil Co.                     |
| 11          | 11               | —                   | 0                           | 1         | 1                | —                   | 0                         | Shotmeyer Bros. Petroleum Corp.   |
| 2           | 2                | —                   | —                           | 15        | 15               | —                   | —                         | SICO                              |
| 1           | 1                | —                   | 1                           | 0         | —                | —                   | 0                         | Sinclair Oil Co.                  |
| 0           | —                | —                   | 0                           | 0         | —                | —                   | —                         | R.L. Smeltz Oil Co., Inc.         |
| 1           | 1                | —                   | N/A                         | 0         | —                | —                   | —                         | Smith-Schafer Oil Co.             |
| 3           | 3                | —                   | —                           | —         | —                | —                   | —                         | SOS Oil Corp.                     |
| 0           | —                | —                   | 0                           | 0         | —                | —                   | —                         | Southern Counties Oil Co.         |
| 0           | —                | —                   | —                           | —         | —                | —                   | —                         | Southern Oil Co., Inc.            |
| 0           | —                | —                   | 0                           | 0         | —                | —                   | 0                         | The Spencer Cos.                  |
| 8           | 8                | —                   | —                           | 6         | 6                | —                   | 1                         | Star Oil Co.                      |
| 1           | —                | —                   | —                           | —         | —                | —                   | 0                         | Stewart Petroleum Co.             |
| 13          | 13               | —                   | 2                           | 3         | 3                | —                   | —                         | Stevens Oil Co.                   |
| N/A         | —                | —                   | —                           | —         | —                | —                   | —                         | Sugarcreek Corp.                  |
| N/A         | —                | —                   | —                           | 37        | N/A              | N/A                 | N/A                       | Sumrail Oil Services, Inc.        |
| 0           | —                | —                   | N/A                         | N/A       | —                | —                   | N/A                       | Sun Refining & Marketing Co.      |
| 7           | 7                | —                   | 0                           | 0         | —                | —                   | 0                         | Sunshine Jr. Stores, Inc.         |
| 0           | 0                | 0                   | 10                          | —         | —                | —                   | —                         | Taylor Oil Co.                    |
| 4           | 4                | 0                   | 936                         | 75        | 75               | 0                   | 3                         | Tesoro Petroleum Corp.            |
| —           | —                | —                   | —                           | —         | —                | —                   | —                         | Texasco, Inc.                     |
| 0           | —                | —                   | —                           | 0         | —                | —                   | —                         | Thornhill Oil Co., Inc.           |
| 0           | —                | —                   | —                           | —         | —                | —                   | —                         | Thornton Oil Co.                  |
| 0           | —                | —                   | —                           | 0         | —                | —                   | —                         | Thrifty Oil Co.                   |
| 0           | —                | —                   | —                           | —         | —                | —                   | —                         | Time Saver Store                  |
| —           | —                | —                   | —                           | —         | —                | —                   | —                         | TOC Retail Inc., dba Majik Market |
| 1           | 1                | 0                   | —                           | 0         | —                | —                   | —                         | Toolay Oil Co.                    |
| N/A         | —                | —                   | —                           | 25        | 5                | 20 (i)              | —                         | Tosco                             |
| 15          | 15               | —                   | 11                          | 12        | 5                | 7                   | N/A                       | Total Petroleum, Inc.             |
| 1           | —                | —                   | —                           | —         | —                | —                   | —                         | Transit Oil Co.                   |
| 0           | —                | —                   | —                           | N/A       | —                | —                   | —                         | Trenton Oil Co.                   |
| 1           | 15               | —                   | 30                          | 10        | 10               | —                   | 10                        | Ultramar                          |
| 0           | —                | —                   | 0                           | 1         | —                | —                   | 0                         | UltraPower Corp.                  |
| 0           | —                | —                   | —                           | 0         | —                | —                   | —                         | Uni-Marts, Inc.                   |
| 423         | 19               | —                   | N/A                         | 1         | 1                | —                   | 0                         | United Refining Co.               |
| —           | —                | 404                 | 267                         | 12        | 12               | —                   | —                         | Unocal Corp.                      |
| —           | —                | —                   | —                           | —         | —                | —                   | —                         | V-1 Oil Co.                       |
| —           | —                | —                   | —                           | —         | —                | —                   | —                         | Vista Marketing Group, Ltd.       |
| 0           | —                | —                   | 0                           | 0         | —                | —                   | —                         | Waco Oil Co. Inc.                 |
| 1           | 1                | —                   | —                           | —         | —                | —                   | —                         | Wake Up Oil Co. Inc.              |
| 4           | 4                | 0                   | 0                           | 1         | 1                | —                   | —                         | Warehubs, Inc.                    |
| 1           | —                | —                   | N/A                         | 0         | —                | —                   | N/A                       | Warren Equities, Inc.             |
| 1           | 1                | —                   | —                           | —         | —                | —                   | —                         | Webster Oil Co.                   |
| —           | —                | —                   | —                           | —         | —                | —                   | —                         | Wesson Inc.                       |
| 3           | 3                | 0                   | 0                           | 0         | 0                | 0                   | 0                         | A.T. Williams Oil Co.             |
| 11          | 10               | 1                   | N/A                         | 1         | 1                | —                   | N/A                       | J.H. Williams Oil Co., Inc.       |
| 1           | 1                | —                   | 0                           | 0         | —                | —                   | 0                         | The Willis Group, Inc.            |
| 0           | —                | —                   | 0                           | 0         | —                | —                   | 0                         | Wooten Oil Co.                    |
| 0           | —                | —                   | 0                           | 0         | —                | —                   | 0                         | Wright Industries, Inc.           |

(h) May include terminals.

(i) Terminal operations companies.



# Traffic Stopper.

Building on our  
commitment to excellence  
in a challenging market.

Mobil



## Branded Retail Outlets

| Company                           | Total<br>Branded<br>Retail<br>Outlets | Number of<br>States<br>Where<br>Gasoline<br>Brand Is<br>Marketed | New England |      |     |       |      | Middle Atlantic |      |      |     |
|-----------------------------------|---------------------------------------|------------------------------------------------------------------|-------------|------|-----|-------|------|-----------------|------|------|-----|
|                                   |                                       |                                                                  | Maine       | N.H. | Vt. | Mass. | R.I. | Conn.           | N.Y. | N.J. | Pa. |
| Advanced Oil Co.                  | 20                                    | 2                                                                | —           | —    | —   | —     | —    | —               | 12   | 8    | —   |
| Agway Petroleum Corp.             | 220                                   | 9                                                                | 7           | 6    | 7   | 14    | 1    | 3               | 131  | 11   | 40  |
| American Petrofina, Inc.          | 3,136                                 | 25                                                               | —           | —    | —   | —     | —    | —               | —    | —    | —   |
| Amoco Corp.                       | 9,802                                 | 33                                                               | —           | —    | —   | —     | —    | 41              | 324  | 315  | 441 |
| American Refining Group, Inc.     | 8                                     | 2                                                                | —           | —    | —   | —     | —    | —               | —    | —    | 7   |
| Ashland Oil Inc.                  | 1,968                                 | 18                                                               | —           | —    | —   | —     | —    | —               | —    | —    | 42  |
| Aztex Enterprises                 | 21                                    | 1                                                                | —           | —    | —   | —     | —    | —               | —    | —    | —   |
| BP America (Ohio)                 | 7,531                                 | 33                                                               | 3           | 12   | 39  | 79    | —    | 53              | 44   | 69   | 405 |
| Bagwell Oil Co., Inc.             | 27                                    | 2                                                                | —           | —    | —   | —     | —    | —               | —    | —    | —   |
| Bedford Valley Petroleum Corp.    | 51                                    | 3                                                                | —           | —    | —   | —     | —    | —               | —    | —    | 25  |
| Best Oil Co.                      | 15                                    | 2                                                                | —           | —    | —   | —     | —    | —               | —    | —    | 14  |
| Bostick Brothers, Inc.            | 18                                    | 2                                                                | —           | —    | —   | —     | —    | —               | —    | —    | —   |
| Bray Terminals, Inc.              | 43                                    | 2                                                                | —           | —    | 3   | —     | —    | —               | 40   | —    | —   |
| Browning Oil Co.                  | 22                                    | 1                                                                | —           | —    | —   | —     | —    | —               | —    | —    | —   |
| Burhmaster Energy Group           | 3                                     | 1                                                                | —           | —    | —   | —     | —    | —               | 3    | —    | —   |
| Dennis K. Burke, Inc.             | 1                                     | 1                                                                | —           | —    | —   | 1     | —    | —               | —    | —    | —   |
| Bursaw Oil Corp.                  | 57                                    | 2                                                                | —           | 2    | —   | 55    | —    | —               | —    | —    | —   |
| By-Lo Oil Co.                     | 17                                    | 1                                                                | —           | —    | —   | —     | —    | —               | —    | —    | —   |
| Campbell Oil Co.                  | 79                                    | 1                                                                | —           | —    | —   | —     | —    | —               | —    | —    | —   |
| Cannon Oil Corp.                  | 17                                    | 3                                                                | —           | —    | —   | —     | —    | —               | —    | —    | —   |
| Cal Oil Products Corp.            | 8                                     | 1                                                                | —           | —    | —   | —     | —    | —               | —    | —    | —   |
| Cenex                             | 1,021                                 | 14                                                               | —           | —    | —   | —     | —    | —               | —    | —    | —   |
| Certified Oil Co.                 | 150                                   | 3                                                                | —           | —    | —   | —     | —    | —               | —    | —    | —   |
| Champlain Oil Co.                 | 100                                   | 4                                                                | —           | 17   | 76  | 1     | —    | —               | 6    | —    | —   |
| Chevron Corp.                     | 9,664 (a)                             | 33                                                               | —           | —    | —   | —     | —    | —               | —    | —    | 2   |
| Circle K. Corp.                   | 801                                   | 22                                                               | 1           | —    | —   | 4     | —    | 2               | —    | —    | —   |
| Citgo                             | 9,734                                 | 46                                                               | 175         | 138  | 85  | 310   | 41   | 205             | 667  | 199  | 470 |
| Clark Oil & Refining Corp.        | 937                                   | 12                                                               | —           | —    | —   | —     | —    | —               | —    | —    | 5   |
| The Coastal Corp.                 | 807                                   | 28                                                               | 3           | —    | —   | —     | —    | —               | —    | 50   | 6   |
| The Coen Co.                      | 125                                   | 1                                                                | —           | —    | —   | —     | —    | —               | —    | —    | —   |
| Colonial Oil Industries, Inc.     | 57                                    | 3                                                                | —           | —    | —   | —     | —    | —               | —    | —    | —   |
| Comet Oil Co.                     | 3                                     | 2                                                                | —           | —    | —   | —     | —    | —               | —    | —    | —   |
| Conoco Inc.                       | 5,484(b)                              | 37                                                               | —           | —    | —   | —     | —    | —               | —    | —    | 13  |
| Consumers Gasoline Stations, Inc. | 45                                    | 3                                                                | —           | —    | —   | —     | —    | —               | —    | —    | —   |
| Consumers Oil                     | 41                                    | 2                                                                | —           | —    | —   | —     | —    | —               | —    | 36   | 5   |
| Convenient Petroleum Corp.        | 35                                    | 1                                                                | —           | —    | —   | —     | —    | 35              | —    | —    | —   |
| Crown Central Petroleum Corp.     | 601                                   | 8                                                                | —           | —    | —   | —     | —    | —               | —    | —    | 2   |
| Crystal Flash Petroleum Corp.     | 26                                    | 1                                                                | —           | —    | —   | —     | —    | —               | —    | —    | —   |
| K.E. David, Ltd.                  | 4                                     | 1                                                                | —           | —    | —   | —     | —    | —               | —    | —    | 4   |
| DeBols Oil Co.                    | 41                                    | 2                                                                | —           | —    | —   | 12    | 29   | —               | —    | —    | —   |
| Drakes Refinery Stations          | 6                                     | 1                                                                | —           | —    | —   | —     | —    | —               | —    | —    | —   |
| East Coast Oil Corp.              | 43                                    | 1                                                                | —           | —    | —   | —     | —    | —               | —    | —    | —   |
| Engelfield Oil Co.                | 248                                   | 2                                                                | —           | —    | —   | —     | —    | —               | —    | —    | —   |
| Ete Oil Co.                       | 4                                     | 1                                                                | —           | —    | —   | —     | —    | —               | —    | —    | —   |
| Exxon Co., USA                    | 11,673                                | 40                                                               | 248         | 81   | —   | 119   | 13   | 85              | 235  | 468  | 634 |
| Farm & Home Oil Co.               | 42                                    | 2                                                                | —           | —    | —   | —     | —    | —               | —    | 2    | 40  |
| Farmland Industries               | 800                                   | 15                                                               | —           | —    | —   | —     | —    | —               | —    | —    | —   |
| Flying J, Inc.                    | 86                                    | 21                                                               | —           | —    | —   | —     | —    | —               | —    | —    | —   |
| Fortmeyer Co.                     | 1                                     | 1                                                                | —           | —    | —   | —     | —    | —               | —    | —    | —   |
| H.N. Funkhouser & Co.             | 25                                    | 1                                                                | —           | —    | —   | —     | —    | —               | —    | —    | —   |
| Getty Petroleum Corp.             | 2,202                                 | 13                                                               | 119         | 95   | 21  | 218   | 30   | 125             | 732  | 390  | 220 |
| Golub Corp.                       | 13                                    | 3                                                                | —           | —    | 1   | 1     | —    | —               | 11   | —    | —   |
| Gresham Petroleum Co.             | 33                                    | 1                                                                | —           | —    | —   | —     | —    | —               | —    | —    | —   |
| Gulf Oil                          | 3,994                                 | 14                                                               | 190         | 149  | 123 | 570   | 86   | 288             | 710  | 631  | 744 |
| Highway Oil, Inc.                 | 176                                   | 22                                                               | —           | 2    | 2   | —     | —    | —               | 22   | —    | 21  |
| Angus I. Hines, Inc.              | 53                                    | 3                                                                | —           | —    | —   | —     | —    | —               | —    | —    | —   |
| Hough Petroleum                   | 80                                    | 2                                                                | —           | —    | —   | —     | —    | —               | —    | 57   | 3   |
| Huck's Convenience Stores         | 100                                   | 5                                                                | —           | —    | —   | —     | —    | —               | —    | —    | —   |
| Hull Oil Co.                      | 29                                    | 2                                                                | —           | —    | —   | —     | —    | —               | —    | —    | —   |
| Hunt Refining Co.                 | 84                                    | 2                                                                | —           | —    | —   | —     | —    | —               | —    | —    | —   |
| Imperial Oil Co.                  | 40                                    | 2                                                                | —           | —    | —   | —     | —    | —               | —    | —    | —   |
| Jacobus Petroleum Products, Inc.  | 42                                    | 1                                                                | —           | —    | —   | —     | —    | —               | —    | —    | —   |
| J.D. Street & Co., Inc.           | 71                                    | 4                                                                | —           | —    | —   | —     | —    | —               | —    | —    | —   |
| J&L Oil, Inc.                     | 56                                    | 3                                                                | —           | —    | —   | —     | —    | —               | —    | —    | —   |
| Johnson Products, Inc.            | 65                                    | 6                                                                | 36          | 15   | 4   | 2     | 1    | —               | 7    | —    | —   |
| Kelley Williamson Co.             | 40                                    | 2                                                                | —           | —    | —   | —     | —    | —               | —    | —    | —   |
| Kelso Oil Co. Inc. dba Pride Oil  | 12                                    | 1                                                                | —           | —    | —   | —     | —    | —               | —    | —    | —   |
| Kerr-McGee Refining Corp.         | 1,588                                 | 20                                                               | —           | —    | —   | —     | —    | —               | —    | —    | —   |
| Kimber Petroleum Corp.            | 65                                    | 1                                                                | —           | —    | —   | —     | —    | —               | —    | 65   | —   |
| Koccolene Oil Corp.               | 73                                    | 4                                                                | —           | —    | —   | —     | —    | —               | —    | —    | 3   |
| Kwik Shop Inc.                    | 210                                   | 5                                                                | —           | —    | —   | —     | —    | —               | —    | —    | —   |
| Carlos R. Leffler                 | 200                                   | 1                                                                | —           | —    | —   | —     | —    | —               | —    | —    | 200 |
| H.C. Lewis Oil Co.                | 27                                    | 1                                                                | —           | —    | —   | —     | —    | —               | —    | —    | —   |
| The Lyden Co.                     | 153                                   | 1                                                                | —           | —    | —   | —     | —    | —               | —    | —    | —   |

(a) Excludes airport and marina outlets, new car dealerships and military exchanges. (b) Current figures not available. Figures shown are 1989 totals.

## in the United States

[illegible]

## Branded Retail Outlets (Cont.)

| Company                            | Total<br>Branded<br>Retail<br>Outlets | Number of<br>States<br>Where<br>Gasoline<br>Brand is<br>Marketed | New England |      |     |       |      |       | Middle Atlantic |      |       |
|------------------------------------|---------------------------------------|------------------------------------------------------------------|-------------|------|-----|-------|------|-------|-----------------|------|-------|
|                                    |                                       |                                                                  | Maine       | N.H. | Vt. | Mass. | R.I. | Conn. | N.Y.            | N.J. | Pa.   |
| Marathon Petroleum Co.             | 2,132                                 | 9                                                                | —           | —    | —   | —     | —    | —     | —               | —    | 9     |
| Martin Oil Marketing, Ltd.         | 43                                    | 2                                                                | —           | —    | —   | —     | —    | —     | —               | —    | —     |
| Mauger & Co.                       | 40                                    | 1                                                                | —           | —    | —   | —     | —    | —     | —               | —    | 40    |
| McDowell Oil Service Inc.          | 28                                    | 1                                                                | —           | —    | —   | —     | —    | —     | —               | —    | 28    |
| McLeleer Oil, Inc.                 | 55                                    | 1                                                                | —           | —    | —   | —     | —    | —     | —               | —    | —     |
| Mid-States Petroleum               | 121                                   | 3                                                                | —           | —    | —   | —     | —    | —     | —               | —    | —     |
| Midwest Petroleum Co.              | 111                                   | 2                                                                | —           | —    | —   | —     | —    | —     | —               | —    | —     |
| Miller Enterprises, Inc.           | 121                                   | 1                                                                | —           | —    | —   | —     | —    | —     | —               | —    | —     |
| Miller Oil Co.                     | 85                                    | 2                                                                | —           | —    | —   | —     | —    | —     | —               | —    | —     |
| Mobil Oil Corp.                    | 9,001                                 | 33                                                               | 215         | 158  | 149 | 561   | 771  | 309   | 1,343           | 513  | 547   |
| Moto Inc.                          | 51                                    | 6                                                                | —           | —    | —   | —     | —    | —     | —               | —    | —     |
| Munro Petroleum & Terminal Corp.   | 36                                    | 1                                                                | —           | —    | —   | —     | —    | —     | —               | —    | —     |
| Murphy Oil USA, Inc.               | 638                                   | 14                                                               | —           | —    | —   | —     | —    | —     | —               | —    | —     |
| National Convenience Stores, Inc.  | 671                                   | 4                                                                | —           | —    | —   | —     | —    | —     | —               | —    | —     |
| National Oil & Gas Inc.            | 95                                    | 2                                                                | 51          | 6    | 58  | —     | —    | —     | —               | —    | —     |
| Northville Industries Corp.        | 110                                   | 2                                                                | —           | —    | —   | —     | —    | —     | 87              | 23   | —     |
| Pal Oil Company, Inc.              | 85                                    | 1                                                                | —           | —    | —   | —     | —    | —     | 85              | —    | —     |
| Parker Oil Co., Inc.               | 81                                    | 3                                                                | —           | —    | —   | —     | —    | —     | —               | —    | —     |
| Patterson Oil Co., Inc.            | 32                                    | 1                                                                | —           | —    | —   | —     | —    | 32    | —               | —    | —     |
| PDQ Food Stores, Inc.              | 66                                    | 3                                                                | —           | —    | —   | —     | —    | —     | —               | —    | —     |
| Pennzoil Products Co.              | 600                                   | 5                                                                | —           | —    | —   | —     | —    | —     | 25              | —    | 250   |
| Petro USA                          | 40                                    | 1                                                                | —           | —    | —   | —     | —    | —     | 40              | —    | —     |
| Petroleum Marketers, Inc.          | 137                                   | 3                                                                | —           | —    | —   | —     | —    | —     | —               | —    | —     |
| Petroleum Products Corp.           | 57                                    | 3                                                                | —           | —    | —   | —     | —    | —     | —               | —    | 40    |
| Phillips 66 Co.                    | 7,907                                 | 29                                                               | —           | —    | —   | —     | —    | —     | —               | —    | —     |
| Plase Motor Fuels, Inc.            | 19                                    | 2                                                                | —           | —    | —   | —     | —    | —     | —               | —    | —     |
| Pilot Corp.                        | 85                                    | 21                                                               | —           | —    | —   | —     | —    | —     | —               | 2    | 1     |
| Pride Oil Co. (Miss.)              | 17                                    | 2                                                                | —           | —    | —   | —     | —    | —     | —               | —    | —     |
| Private Brand Services, Inc.       | 1                                     | 1                                                                | —           | —    | —   | —     | —    | —     | —               | —    | —     |
| Pyramid Oil Co.                    | 30                                    | 1                                                                | —           | —    | —   | —     | —    | —     | —               | 30   | —     |
| Quality Oil Co., Inc.              | 115                                   | 1                                                                | —           | —    | —   | —     | —    | —     | —               | —    | —     |
| Quarles Petroleum                  | 50                                    | 3                                                                | —           | —    | —   | —     | —    | —     | —               | —    | —     |
| Quicktrip Corp.                    | 278                                   | 6                                                                | —           | —    | —   | —     | —    | —     | —               | —    | —     |
| Red Hed Oil Co. Inc.               | 34                                    | 1                                                                | —           | —    | —   | —     | —    | —     | —               | —    | —     |
| Reinauer Petroleum Co.             | 7                                     | 1                                                                | —           | —    | —   | —     | —    | —     | —               | 7    | —     |
| Remote Services, Inc.              | 451                                   | 15                                                               | —           | 4    | —   | 14    | 3    | 29    | 12              | —    | 2     |
| Reynolds Industries, Inc.          | 5                                     | 3                                                                | 2           | 1    | —   | 2     | —    | —     | —               | —    | —     |
| Rich Oil, Inc.                     | 80                                    | 3                                                                | —           | —    | —   | —     | —    | —     | —               | —    | —     |
| River Oil Co.                      | 40                                    | 2                                                                | —           | —    | —   | —     | —    | —     | —               | —    | —     |
| Roach Oil Co.                      | 10                                    | 2                                                                | —           | —    | —   | —     | —    | —     | —               | —    | —     |
| Royster Oil Co., Inc.              | 24                                    | 1                                                                | —           | —    | —   | —     | —    | —     | —               | —    | —     |
| Russell Petroleum Corp.            | 14                                    | 1                                                                | —           | —    | —   | —     | —    | —     | —               | —    | —     |
| Santee Oil Co.                     | 9                                     | 1                                                                | —           | —    | —   | —     | —    | —     | —               | —    | —     |
| Save-X USA, Inc.                   | 10                                    | 1                                                                | —           | —    | —   | —     | —    | —     | —               | —    | —     |
| SCASO                              | 40                                    | 1                                                                | —           | —    | —   | —     | —    | 40    | —               | —    | —     |
| Sears Oil Co., Inc.                | 10                                    | —                                                                | —           | —    | —   | —     | —    | —     | 10              | —    | —     |
| Shelby Petroleum Corp.             | 20                                    | 2                                                                | —           | —    | —   | —     | —    | —     | —               | —    | —     |
| Shell Oil Co.                      | 9,383                                 | 41                                                               | 0           | 12   | 0   | 221   | 55   | 132   | 246             | 275  | 100   |
| Shotmeyer Bros. Petroleum Corp.    | 64                                    | 1                                                                | —           | —    | —   | —     | —    | —     | —               | —    | —     |
| SICO                               | 123                                   | 3                                                                | —           | —    | —   | —     | —    | —     | —               | —    | —     |
| Sinclair Oil Corp.                 | 2,612                                 | 20                                                               | —           | —    | —   | —     | —    | —     | —               | —    | —     |
| R.L. Smeltz Oil Co., Inc.          | 21                                    | 1                                                                | —           | —    | —   | —     | —    | —     | —               | —    | 21    |
| Smith-Shafer Oil Co.               | 4                                     | 1                                                                | —           | —    | —   | —     | —    | —     | —               | —    | —     |
| SOS Oil Corp.                      | 55                                    | 1                                                                | —           | —    | —   | —     | —    | —     | 55              | —    | —     |
| Southern Oil Co., Inc.             | 10                                    | 1                                                                | —           | —    | —   | —     | —    | —     | —               | —    | —     |
| The Spencer Co., Inc.              | 56                                    | 1                                                                | —           | —    | —   | —     | —    | —     | —               | —    | —     |
| Star Oil Co.                       | 22                                    | 1                                                                | —           | —    | —   | —     | —    | —     | —               | —    | —     |
| Stewart Petroleum Co.              | 68                                    | 6                                                                | —           | —    | —   | —     | —    | —     | —               | —    | —     |
| Stevens Oil Co.                    | 53                                    | 1                                                                | —           | —    | —   | —     | —    | —     | —               | —    | —     |
| Sugarcreek Corp.                   | 320                                   | 1                                                                | —           | —    | —   | —     | —    | —     | 320             | —    | —     |
| Sumrall Oil Services, Inc.         | 15                                    | 1                                                                | —           | —    | —   | —     | —    | —     | —               | —    | —     |
| Sun Refining & Marketing Co.       | 6,019                                 | 28                                                               | 56          | 77   | 50  | 385   | 103  | 231   | 1,150           | 428  | 1,345 |
| Sunshine Jr. Stores, Inc.          | 297                                   | 5                                                                | —           | —    | —   | —     | —    | —     | —               | —    | —     |
| Taylor Oil Co.                     | 60                                    | 2                                                                | —           | —    | —   | —     | —    | —     | —               | —    | —     |
| Texaco, Inc.                       | 15,111                                | 49                                                               | 107         | 70   | 68  | 324   | 66   | 211   | 276             | 294  | 553   |
| Thornhill Oil Co., Inc.            | 29                                    | 1                                                                | —           | —    | —   | —     | —    | —     | —               | —    | —     |
| TOC Retail Inc., dba Majik Markets | 389                                   | 11                                                               | —           | —    | —   | —     | —    | —     | —               | —    | —     |
| Thornion Oil Corp.                 | 110                                   | 6                                                                | —           | —    | —   | —     | —    | —     | —               | —    | —     |
| Total Petroleum, Inc.              | 2,698                                 | 22                                                               | —           | —    | —   | —     | —    | —     | —               | —    | —     |
| Trenton Oil Co., Inc.              | 31                                    | 1                                                                | —           | —    | —   | —     | —    | —     | —               | 31   | —     |
| UltraPower Corp.                   | 5                                     | 1                                                                | —           | —    | —   | —     | —    | —     | 5               | —    | —     |
| Uni-Marts, Inc.                    | 205                                   | 4                                                                | —           | —    | —   | —     | —    | —     | 26              | —    | 175   |
| United Refining Co.                | 343                                   | 3                                                                | —           | —    | —   | —     | —    | —     | 195             | —    | 131   |
| Unocal Corp.                       | 7,431(c)                              | 41                                                               | —           | —    | —   | —     | —    | 2     | 2               | 2    | 14    |
| Vista Marketing Group Ltd.         | 16                                    | 4                                                                | —           | —    | —   | —     | —    | —     | —               | —    | —     |
| Waco Oil Co., Inc.                 | 16                                    | 2                                                                | —           | —    | —   | —     | —    | —     | —               | —    | —     |

(c) Totals do not include those for the Uno-ven joint venture in the Midwest



| South Atlantic |     |      |     |        |      |      |     |      | East North Central |      |      |       |      | East South Central |       |      |       |
|----------------|-----|------|-----|--------|------|------|-----|------|--------------------|------|------|-------|------|--------------------|-------|------|-------|
| Del.           | Md. | D.C. | Va. | W. Va. | N.C. | S.C. | Ga. | Fla. | Ohio               | Ind. | Ill. | Mich. | Wis. | Ky.                | Tenn. | Ala. | Miss. |
| —              | —   | —    | —   | 23     | —    | 2    | —   | —    | 672                | 443  | 260  | 552   | 29   | 142                | —     | —    | —     |
| —              | —   | —    | —   | —      | —    | —    | —   | —    | —                  | 18   | 20   | —     | —    | —                  | —     | —    | —     |
| —              | —   | —    | —   | —      | —    | —    | —   | —    | —                  | —    | —    | 55    | —    | —                  | —     | —    | —     |
| —              | —   | —    | —   | —      | —    | —    | —   | —    | 18                 | 20   | —    | 83    | —    | —                  | —     | —    | —     |
| —              | —   | —    | —   | —      | —    | —    | —   | —    | —                  | —    | 17   | —     | —    | —                  | —     | —    | —     |
| —              | —   | —    | —   | —      | —    | —    | —   | 121  | —                  | —    | —    | —     | —    | —                  | —     | —    | —     |
| 60             | 106 | 1    | 58  | 39     | 27   | —    | 5   | 508  | 117                | 89   | 385  | 510   | 455  | 54                 | 99    | 10   | —     |
| —              | —   | —    | 152 | —      | 159  | —    | —   | —    | 10                 | 4    | 28   | —     | 5    | —                  | —     | —    | —     |
| —              | —   | —    | —   | —      | —    | —    | —   | —    | —                  | —    | —    | —     | —    | —                  | —     | —    | —     |
| —              | —   | —    | 12  | —      | 36   | 15   | 48  | 91   | —                  | —    | —    | 9     | 97   | 11                 | 57    | 94   | 36    |
| —              | —   | —    | —   | —      | —    | —    | 31  | 15   | —                  | —    | —    | —     | —    | —                  | —     | —    | 31    |
| —              | —   | —    | —   | —      | —    | —    | —   | —    | —                  | —    | —    | —     | —    | —                  | —     | —    | —     |
| —              | —   | —    | —   | —      | —    | —    | —   | —    | —                  | —    | —    | —     | —    | —                  | —     | —    | —     |
| —              | 1   | —    | 77  | —      | 3    | —    | —   | —    | —                  | —    | —    | —     | —    | —                  | —     | —    | —     |
| —              | —   | —    | —   | —      | —    | —    | —   | —    | —                  | —    | —    | —     | —    | —                  | —     | —    | —     |
| —              | —   | —    | —   | 50     | —    | —    | —   | —    | 150                | —    | —    | —     | 21   | —                  | —     | —    | —     |
| —              | —   | —    | —   | —      | —    | —    | —   | —    | —                  | —    | —    | —     | —    | 25                 | —     | —    | —     |
| —              | —   | —    | —   | —      | —    | —    | —   | —    | —                  | —    | —    | —     | —    | —                  | —     | —    | —     |
| —              | 1   | —    | 124 | 12     | —    | —    | —   | —    | —                  | —    | —    | —     | —    | —                  | —     | —    | —     |
| —              | 2   | —    | —   | 15     | —    | —    | —   | —    | —                  | —    | —    | —     | —    | —                  | —     | —    | —     |
| —              | —   | —    | 51  | —      | 605  | 238  | 380 | 249  | —                  | 290  | 497  | 65    | 236  | 21                 | 317   | 318  | 137   |
| —              | —   | —    | —   | —      | —    | —    | —   | —    | —                  | —    | 17   | —     | —    | —                  | —     | —    | —     |
| —              | 1   | —    | 18  | 1      | 1    | —    | —   | 1    | 2                  | 2    | 2    | 1     | 1    | 2                  | 42    | —    | —     |
| —              | —   | —    | —   | —      | —    | —    | —   | —    | —                  | —    | —    | —     | —    | —                  | —     | 2    | 15    |
| —              | —   | —    | —   | —      | —    | —    | —   | —    | —                  | —    | —    | 1     | —    | —                  | —     | —    | —     |
| —              | —   | —    | —   | —      | 115  | —    | —   | —    | —                  | —    | —    | —     | —    | —                  | —     | —    | —     |
| —              | 1   | —    | 48  | 1      | —    | —    | —   | —    | —                  | —    | —    | —     | —    | —                  | —     | —    | —     |
| —              | —   | —    | —   | —      | —    | —    | 29  | —    | —                  | —    | 3    | —     | —    | —                  | —     | —    | —     |
| —              | —   | —    | —   | —      | —    | —    | —   | —    | —                  | —    | —    | —     | —    | 34                 | —     | —    | —     |
| —              | —   | —    | —   | —      | 9    | —    | —   | 15   | 135                | 18   | 20   | 15    | —    | 158                | 16    | —    | —     |
| —              | —   | —    | —   | —      | —    | —    | —   | —    | —                  | —    | —    | —     | —    | —                  | —     | —    | —     |
| —              | —   | —    | —   | 21     | —    | —    | —   | —    | 39                 | —    | —    | —     | —    | 20                 | —     | —    | —     |
| —              | —   | —    | —   | —      | —    | —    | —   | —    | —                  | —    | —    | —     | —    | —                  | 37    | —    | —     |
| —              | 3   | —    | —   | 7      | —    | —    | —   | —    | —                  | —    | —    | —     | —    | —                  | —     | —    | 3     |
| —              | —   | —    | —   | —      | 24   | —    | —   | —    | —                  | —    | —    | —     | —    | —                  | —     | —    | —     |
| —              | —   | —    | —   | —      | —    | —    | —   | —    | —                  | —    | —    | —     | —    | —                  | —     | 14   | —     |
| —              | —   | —    | 10  | —      | —    | 9    | —   | —    | —                  | —    | —    | —     | —    | —                  | —     | —    | —     |
| —              | —   | —    | —   | —      | —    | —    | —   | —    | —                  | —    | —    | —     | —    | —                  | —     | —    | —     |
| —              | —   | —    | —   | —      | —    | —    | —   | —    | —                  | —    | —    | —     | —    | —                  | —     | —    | —     |
| 37             | 222 | 9    | 274 | 17     | 336  | 168  | 341 | 625  | 421                | 328  | 604  | 538   | 127  | 10                 | 10    | —    | —     |
| —              | —   | —    | —   | —      | —    | —    | —   | —    | —                  | —    | —    | —     | —    | 286                | 228   | 282  | 216   |
| 1              | —   | —    | —   | —      | —    | —    | —   | —    | —                  | —    | —    | —     | —    | —                  | —     | —    | —     |
| —              | —   | —    | —   | —      | —    | —    | —   | —    | —                  | —    | 17   | —     | —    | —                  | —     | —    | —     |
| —              | —   | —    | —   | —      | —    | —    | —   | —    | —                  | —    | —    | —     | —    | —                  | —     | —    | —     |
| —              | —   | —    | —   | —      | —    | —    | —   | —    | —                  | —    | 4    | —     | —    | —                  | —     | —    | —     |
| —              | —   | —    | —   | —      | —    | —    | —   | —    | —                  | —    | —    | —     | —    | —                  | —     | —    | —     |
| —              | —   | —    | 10  | —      | —    | —    | —   | —    | —                  | —    | —    | —     | —    | —                  | —     | —    | —     |
| —              | —   | —    | —   | —      | —    | —    | —   | —    | —                  | —    | —    | —     | —    | —                  | —     | 58   | —     |
| —              | 26  | —    | 24  | —      | 7    | 6    | 4   | 1    | —                  | —    | —    | —     | —    | —                  | —     | —    | —     |
| —              | —   | —    | —   | —      | —    | —    | —   | —    | —                  | —    | —    | —     | —    | —                  | —     | 53   | —     |
| —              | —   | —    | —   | —      | —    | —    | —   | —    | —                  | —    | —    | —     | —    | —                  | —     | —    | —     |
| 18             | 102 | 8    | 22  | 75     | 69   | 7    | —   | —    | 473                | 149  | 236  | 347   | 4    | 63                 | —     | —    | 15    |
| —              | —   | —    | —   | —      | —    | —    | 18  | 160  | —                  | —    | —    | —     | —    | —                  | —     | 80   | 35    |
| —              | —   | —    | 10  | —      | 50   | —    | —   | —    | —                  | —    | —    | —     | —    | —                  | —     | —    | —     |
| —              | —   | —    | —   | —      | —    | —    | —   | —    | —                  | 29   | —    | —     | —    | —                  | —     | —    | —     |
| 56             | 226 | 8    | 509 | 28     | 801  | 369  | 627 | 898  | 1                  | 0    | 27   | 0     | 1    | 32                 | 429   | 430  | 324   |
| —              | —   | —    | 2   | 1      | 23   | 51   | 92  | 45   | —                  | —    | —    | —     | —    | 7                  | 33    | 26   | 23    |
| —              | —   | —    | —   | —      | —    | —    | —   | —    | 13                 | 14   | 17   | —     | —    | 55                 | —     | —    | —     |
| —              | —   | —    | —   | —      | —    | —    | —   | —    | 14                 | 3    | 29   | 493   | 68   | 1                  | 19    | —    | 2     |
| —              | —   | —    | —   | —      | —    | —    | —   | —    | —                  | —    | —    | —     | —    | —                  | —     | —    | —     |
| 3              | 1   | —    | —   | —      | —    | —    | —   | —    | —                  | —    | —    | —     | —    | —                  | —     | —    | —     |
| —              | —   | —    | —   | —      | —    | —    | —   | —    | 17                 | —    | —    | —     | —    | —                  | —     | —    | —     |
| —              | 4   | —    | 309 | 22     | 661  | 223  | 606 | 892  | 14                 | 6    | 11   | 4     | 4    | 2                  | 392   | 643  | 337   |
| —              | —   | —    | —   | —      | —    | —    | —   | —    | 4                  | —    | 4    | —     | 7    | 12                 | —     | —    | —     |

## Branded Retail Outlets (Cont.)

| Company                     | Total<br>Branded<br>Retail<br>Outlets | Number of<br>States<br>Where<br>Gasoline<br>Brand Is<br>Marketed | New England |      |     |       |      |       | Middle Atlantic |      |     |
|-----------------------------|---------------------------------------|------------------------------------------------------------------|-------------|------|-----|-------|------|-------|-----------------|------|-----|
|                             |                                       |                                                                  | Maine       | N.H. | Vt. | Mass. | R.I. | Conn. | N.Y.            | N.J. | Pa. |
| Wake Up Oil Co., Inc.       | 39                                    | 1                                                                | —           | —    | —   | —     | —    | —     | —               | —    | —   |
| Warelubco                   | 106                                   | 69                                                               | —           | —    | —   | —     | —    | —     | —               | —    | —   |
| Warren Equities, Inc.       | 198                                   | 8                                                                | 11          | 8    | —   | 47    | 38   | 44    | 41              | 5    | 4   |
| Wavaho Oil Co.              | 96                                    | 5                                                                | —           | —    | —   | —     | —    | —     | —               | —    | —   |
| Wesson, Inc.                | 40                                    | 1                                                                | —           | —    | —   | —     | —    | 40    | —               | —    | —   |
| A.T. Williams Oil Co.       | 97                                    | 2                                                                | —           | —    | —   | —     | —    | —     | —               | —    | —   |
| J.H. Williams Oil Co., Inc. | 86 (d)                                | 1                                                                | —           | —    | —   | —     | —    | —     | —               | —    | —   |
| The Wills Group, Inc.       | 126                                   | 3                                                                | —           | —    | —   | —     | —    | —     | —               | —    | —   |
| Wooten Oil Co.              | 52                                    | 3                                                                | —           | —    | —   | —     | —    | —     | —               | —    | —   |
| Wright Industries, Inc.     | 24                                    | 1                                                                | —           | —    | —   | —     | —    | —     | —               | —    | —   |

(d) Includes marinas.

| Company                                                   | Total<br>Branded<br>Retail<br>Outlets | Number of<br>States<br>Where<br>Gasoline<br>Brand Is<br>Marketed | West North Central |      |     |      |      |      |      |
|-----------------------------------------------------------|---------------------------------------|------------------------------------------------------------------|--------------------|------|-----|------|------|------|------|
|                                                           |                                       |                                                                  | Minn.              | Iowa | Mo. | N.D. | S.D. | Neb. | Kan. |
| Ada Resources & Energy, Inc.                              | 61                                    | 1                                                                | —                  | —    | —   | —    | —    | —    | —    |
| American Petrofina, Inc.                                  | 3,136                                 | 25                                                               | 100                | 25   | 146 | —    | 19   | 17   | 102  |
| Amoco Corp.                                               | 9,802                                 | 33                                                               | 469                | 367  | 396 | 168  | 165  | 128  | 205  |
| ARCO                                                      | 1,541                                 | 5                                                                | —                  | —    | —   | —    | —    | —    | —    |
| Arkansas Valley Petroleum                                 | 83                                    | 2                                                                | —                  | —    | 11  | —    | —    | —    | —    |
| Ashland Oil Co., Inc.                                     | 1,968                                 | 18                                                               | 164                | 6    | 3   | 1    | 6    | —    | —    |
| BP America, Inc. (Ohio)                                   | 7,531                                 | 33                                                               | —                  | —    | 1   | —    | —    | —    | —    |
| Bostick Brothers, Inc.                                    | 18                                    | 2                                                                | —                  | —    | —   | —    | —    | —    | —    |
| Bradley Petroleum Inc.                                    | 36                                    | 3                                                                | —                  | —    | —   | —    | —    | —    | —    |
| Brennen Petroleum Co.                                     | 1                                     | 1                                                                | —                  | —    | —   | —    | —    | —    | —    |
| Broken Hill Proprietary/Pacific Resources dba Gas Express | 25                                    | 1                                                                | —                  | —    | —   | —    | —    | —    | —    |
| Conex                                                     | 1,021                                 | 14                                                               | 221                | 54   | —   | 152  | 109  | 49   | 9    |
| Chapman, Inc.                                             | 37                                    | 1                                                                | —                  | —    | —   | —    | —    | —    | —    |
| Chevron Corp.                                             | 9,664(a)                              | 33                                                               | —                  | —    | 2   | —    | —    | —    | —    |
| Circle K Corp.                                            | 801                                   | 22                                                               | —                  | —    | —   | —    | —    | —    | —    |
| Citgo Petroleum Corp.                                     | 9,734                                 | 46                                                               | 18                 | 24   | 206 | —    | 2    | 6    | 35   |
| Clark Oil & Refining Corp.                                | 937                                   | 12                                                               | 18                 | 7    | 51  | —    | —    | —    | 10   |
| The Coastal Corp.                                         | 807                                   | 28                                                               | 8                  | 112  | 70  | —    | 6    | 44   | 155  |
| Como Oil Co.                                              | 30                                    | 1                                                                | 30                 | —    | —   | —    | —    | —    | —    |
| Conoco Inc.                                               | 5,484(b)                              | 37                                                               | 180                | 221  | 539 | 87   | 80   | 228  | 242  |
| Cook & Cooley, Inc.                                       | 60                                    | 1                                                                | —                  | —    | —   | —    | —    | —    | —    |
| Curtis Parker Oil Co., Inc.                               | 21                                    | 1                                                                | —                  | —    | —   | —    | —    | —    | —    |
| Diamond Shamrock, Inc.                                    | 1,914                                 | 8                                                                | —                  | —    | 1   | —    | —    | —    | 18   |
| Exxon Co., USA                                            | 11,673                                | 40                                                               | —                  | —    | 1   | —    | 14   | —    | —    |
| Farmland Industries                                       | 800                                   | 15                                                               | 50                 | 120  | 40  | 30   | 75   | 160  | 175  |
| Fleetman Inc. dba Fuelman                                 | 5                                     | 1                                                                | —                  | —    | —   | —    | —    | —    | —    |
| Flying J Inc.                                             | 86                                    | 21                                                               | —                  | 1    | 1   | 6    | —    | —    | —    |
| Friends Convenience Store                                 | 33                                    | 1                                                                | —                  | —    | —   | —    | —    | —    | —    |
| Fuel-Link, Inc.                                           | 1                                     | 1                                                                | —                  | —    | —   | —    | —    | —    | —    |
| General Oil Co.                                           | 29                                    | 1                                                                | —                  | —    | —   | —    | —    | —    | —    |
| Giant Industries, Inc.                                    | 39                                    | 3                                                                | —                  | —    | —   | —    | —    | —    | —    |
| Golden Gate Petroleum Co.                                 | 5                                     | 1                                                                | —                  | —    | —   | —    | —    | —    | —    |
| Harris Enterprises Inc.                                   | 24                                    | 2                                                                | —                  | —    | —   | —    | —    | —    | —    |
| Hawaiian Independent Refinery, Inc.                       | 25                                    | 1                                                                | —                  | —    | —   | —    | —    | —    | —    |
| Highway Oil, Inc.                                         | 176                                   | 22                                                               | —                  | 1    | 10  | —    | 1    | 1    | 8    |
| Bamey Holland Oil Co.                                     | 90                                    | 1                                                                | —                  | —    | —   | —    | —    | —    | —    |
| Horkey Oil Co. Inc.                                       | 32                                    | 1                                                                | —                  | —    | —   | —    | —    | —    | —    |
| Hom Distributing Co. Inc.                                 | 21                                    | 1                                                                | —                  | —    | —   | —    | —    | —    | —    |
| Huck's Convenience Stores                                 | 100                                   | 5                                                                | —                  | —    | 3   | —    | —    | —    | —    |
| Hudson Oil Co.                                            | 11                                    | 2                                                                | —                  | —    | —   | —    | —    | —    | —    |
| J.D. Street & Co., Inc.                                   | 71                                    | 4                                                                | —                  | 1    | 46  | —    | —    | —    | —    |
| JS&J Service Inc.                                         | 3                                     | 2                                                                | —                  | —    | —   | —    | —    | —    | —    |
| Kent Distributors, Inc.                                   | 8                                     | 1                                                                | —                  | —    | —   | —    | —    | —    | —    |
| Kerr-McGee Refining Corp.                                 | 1,588                                 | 20                                                               | 20                 | 103  | 172 | 3    | 21   | 82   | 127  |
| Kwik Shop, Inc.                                           | 210                                   | 5                                                                | —                  | 65   | —   | —    | —    | 48   | 63   |
| Merchants Oil Co.                                         | 49                                    | 1                                                                | —                  | —    | —   | —    | —    | —    | —    |
| Merritt Trax, Inc.                                        | 84                                    | 3                                                                | —                  | —    | —   | —    | —    | —    | —    |
| MFA Oil Company                                           | 200                                   | 1                                                                | —                  | —    | 200 | —    | —    | —    | —    |
| Mid-Missouri Oil Co.                                      | 15(b)                                 | 1                                                                | —                  | —    | 15  | —    | —    | —    | —    |
| Midwest Petroleum Co.                                     | 111                                   | 2                                                                | —                  | —    | 94  | —    | —    | —    | —    |
| Mini-Mart Inc.                                            | 118                                   | 6                                                                | —                  | —    | —   | 28   | 9    | 4    | —    |
| Missouri Terminal Oil Co.                                 | 8                                     | 1                                                                | —                  | —    | 8   | —    | —    | —    | —    |
| Mobil Oil Corp.                                           | 9,001                                 | 33                                                               | 269                | —    | 88  | 19   | —    | —    | —    |
| Moto, Inc.                                                | 51                                    | 6                                                                | 2                  | —    | 2   | —    | —    | —    | —    |
| Murphy Oil USA, Inc.                                      | 638                                   | 14                                                               | 86                 | —    | —   | —    | —    | —    | —    |
| Musket Corp.                                              | 125                                   | 6                                                                | —                  | —    | —   | —    | —    | —    | 18   |
| National Convenience Stores, Inc.                         | 871                                   | 4                                                                | —                  | —    | —   | —    | —    | —    | —    |

(a) Excludes airport and marina outlets, new car dealerships and military exchanges.

(b) Current figures not available. Figures shown are 1989 totals.

| South Atlantic |     |      |     |        |      |      |     |      | East North Central |      |      |       |      | East South Central |       |      |       |
|----------------|-----|------|-----|--------|------|------|-----|------|--------------------|------|------|-------|------|--------------------|-------|------|-------|
| Del.           | Md. | D.C. | Va. | W. Va. | N.C. | S.C. | Ga. | Fla. | Ohio               | Ind. | Ill. | Mich. | Wis. | Ky.                | Tenn. | Ala. | Miss. |
| —              | —   | —    | —   | —      | —    | —    | —   | 8    | —                  | 39   | —    | —     | —    | —                  | —     | —    | —     |
| —              | —   | —    | —   | —      | —    | —    | —   | 8    | —                  | 3    | 75   | —     | —    | —                  | —     | —    | —     |
| —              | —   | —    | —   | —      | —    | —    | —   | 86   | —                  | 3    | 67   | —     | —    | —                  | —     | —    | —     |
| —              | —   | —    | 40  | —      | 57   | —    | —   | —    | —                  | —    | —    | —     | —    | —                  | —     | —    | —     |
| 3              | 110 | —    | 13  | —      | —    | —    | —   | —    | —                  | —    | —    | —     | —    | —                  | —     | —    | —     |
| —              | —   | —    | 1   | —      | 50   | 1    | —   | —    | —                  | —    | —    | —     | —    | —                  | —     | —    | —     |
| —              | —   | —    | —   | —      | —    | —    | —   | —    | —                  | —    | 24   | —     | —    | —                  | —     | —    | —     |

| West South Central |     |       |       | Mountain |       |      |       |      |       |      | Pacific |       |      |          |        |        |
|--------------------|-----|-------|-------|----------|-------|------|-------|------|-------|------|---------|-------|------|----------|--------|--------|
| Ark.               | La. | Okla. | Texas | Mont.    | Idaho | Wyo. | Colo. | N.M. | Ariz. | Utah | Nev.    | Wash. | Ore. | Calif.   | Alaska | Hawaii |
| —                  | —   | —     | 61    | —        | —     | —    | —     | —    | —     | —    | —       | —     | —    | —        | —      | —      |
| 108                | 98  | 141   | 1,040 | —        | 17    | 62   | 222   | 147  | 11    | 1    | —       | —     | —    | —        | —      | —      |
| —                  | —   | —     | —     | —        | —     | —    | —     | —    | 75    | 39   | 1a      | —     | —    | —        | —      | —      |
| —                  | —   | 72    | —     | —        | —     | —    | —     | —    | —     | —    | 76      | 209   | 89   | 1,092(e) | —      | —      |
| 9                  | —   | 1     | 2     | 22       | —     | 1    | —     | 3    | 1     | —    | —       | 3     | —    | —        | —      | —      |
| 2                  | —   | —     | —     | —        | —     | —    | —     | —    | —     | —    | —       | 232   | 241  | 356      | —      | —      |
| —                  | —   | —     | —     | —        | —     | 2    | 29    | 5    | —     | —    | —       | —     | —    | —        | —      | —      |
| —                  | —   | —     | —     | —        | —     | —    | —     | —    | 1     | —    | —       | —     | —    | —        | —      | —      |
| —                  | —   | —     | —     | —        | —     | —    | —     | —    | —     | —    | —       | —     | —    | —        | —      | 25     |
| —                  | —   | —     | —     | 72       | 43    | 8    | —     | —    | —     | 6    | —       | 72    | 35   | —        | —      | —      |
| 271                | 470 | 82    | 1,779 | 57       | 124   | 27   | 1     | 178  | 185   | 123  | 81      | 346   | 223  | 1,558    | 100    | 117    |
| 18                 | 141 | 65    | 128   | —        | —     | —    | —     | —    | 56    | —    | 20      | 7     | —    | —        | —      | 2      |
| 277                | 218 | 297   | 1,226 | —        | 19    | —    | 190   | 33   | 78    | 124  | 125     | 127   | 1    | 266      | —      | —      |
| 13                 | 18  | 38    | 46    | —        | —     | 3    | 24    | —    | —     | —    | —       | —     | —    | —        | —      | —      |
| 226                | 523 | 475   | 898   | 297      | 48    | 103  | 466   | 132  | 6     | 144  | 5       | 102   | —    | 63       | —      | —      |
| —                  | —   | —     | —     | —        | —     | —    | —     | —    | —     | —    | —       | —     | —    | 60       | —      | —      |
| —                  | 21  | —     | —     | —        | —     | —    | —     | —    | —     | —    | —       | —     | —    | —        | —      | —      |
| 58                 | 36  | 59    | 1,499 | —        | —     | —    | 154   | 89   | —     | —    | —       | —     | —    | —        | —      | —      |
| 332                | 542 | 1     | 2,165 | 219      | 27    | 16   | 10    | 111  | 282   | 15   | 33      | 215   | 89   | 748      | —      | —      |
| 10                 | —   | 60    | 70    | —        | 5     | 10   | 50    | —    | —     | —    | —       | —     | —    | —        | —      | —      |
| —                  | —   | —     | —     | —        | —     | —    | —     | —    | —     | —    | —       | —     | —    | —        | —      | —      |
| 1                  | —   | —     | 4     | 4        | 6     | 4    | 3     | —    | 3     | 16   | 3       | 13    | 5    | 10       | —      | —      |
| —                  | —   | —     | 33    | —        | —     | —    | —     | —    | —     | —    | —       | —     | —    | —        | —      | —      |
| 29                 | —   | —     | —     | —        | —     | —    | —     | —    | —     | —    | —       | —     | —    | 1        | —      | —      |
| —                  | —   | —     | —     | —        | —     | —    | —     | —    | —     | —    | —       | —     | —    | —        | —      | —      |
| —                  | —   | —     | —     | —        | —     | —    | 1     | 14   | 24    | —    | —       | —     | —    | —        | —      | —      |
| —                  | —   | —     | —     | —        | —     | —    | —     | —    | —     | —    | —       | 3     | 21   | —        | —      | —      |
| —                  | —   | —     | —     | —        | —     | —    | —     | —    | —     | —    | —       | —     | —    | —        | —      | 25     |
| —                  | —   | —     | 12    | —        | —     | 1    | 2     | —    | —     | —    | —       | —     | —    | —        | —      | —      |
| —                  | —   | —     | 90    | —        | —     | —    | —     | —    | —     | —    | —       | —     | —    | —        | —      | —      |
| —                  | —   | —     | 32    | —        | —     | —    | —     | 21   | —     | —    | —       | —     | —    | —        | —      | —      |
| —                  | —   | —     | —     | —        | —     | —    | —     | —    | —     | —    | —       | —     | —    | —        | —      | —      |
| —                  | —   | —     | —     | —        | —     | —    | —     | —    | —     | —    | —       | —     | —    | —        | —      | —      |
| 6                  | —   | 10    | 1     | —        | —     | —    | —     | —    | —     | —    | —       | —     | —    | —        | —      | —      |
| —                  | —   | —     | —     | —        | —     | —    | —     | —    | —     | —    | —       | —     | —    | —        | —      | —      |
| —                  | —   | —     | 8     | —        | —     | —    | —     | —    | 1     | —    | —       | —     | —    | 2        | —      | —      |
| 232                | 3   | 419   | 180   | —        | —     | —    | —     | 6    | —     | —    | —       | —     | —    | —        | —      | —      |
| —                  | —   | 18    | —     | —        | —     | —    | —     | —    | —     | —    | —       | —     | —    | —        | —      | —      |
| —                  | —   | —     | —     | —        | —     | —    | 49    | —    | —     | —    | —       | —     | —    | —        | —      | —      |
| —                  | —   | —     | —     | —        | —     | —    | —     | —    | —     | —    | —       | 3     | 70   | 11       | —      | —      |
| —                  | —   | —     | —     | —        | —     | —    | —     | —    | —     | —    | —       | —     | —    | —        | —      | —      |
| —                  | —   | —     | —     | 23       | —     | 41   | 18    | —    | —     | —    | —       | —     | —    | —        | —      | —      |
| 1                  | 261 | —     | 767   | —        | —     | —    | —     | —    | 176   | —    | —       | —     | —    | 745      | —      | —      |
| 5                  | 46  | —     | —     | —        | —     | —    | —     | —    | —     | —    | —       | —     | —    | —        | —      | —      |
| 2                  | —   | 82    | 13    | —        | —     | —    | 7     | 5    | —     | —    | —       | —     | —    | —        | —      | —      |
| —                  | —   | —     | 778   | —        | —     | —    | —     | —    | —     | —    | —       | —     | —    | 47       | —      | —      |

(e) Excludes 6 am/pm with no gasoline sales.

## Branded Retail Outlets (Cont.)

| Company                              | Total<br>Branded<br>Retail<br>Outlets | Number of<br>States<br>Where<br>Gasoline<br>Brand is<br>Marketed | West North Central |      |     |      |      |      |      |
|--------------------------------------|---------------------------------------|------------------------------------------------------------------|--------------------|------|-----|------|------|------|------|
|                                      |                                       |                                                                  | Minn.              | Iowa | Mo. | N.D. | S.D. | Neb. | Kan. |
| Neel, Inc.                           | 25                                    | 1                                                                | —                  | —    | —   | —    | —    | —    | —    |
| Nella Oil Co.                        | 25                                    | 2                                                                | —                  | —    | —   | —    | —    | —    | —    |
| Newall Oil Co.                       | 13                                    | 1                                                                | —                  | —    | —   | —    | —    | —    | —    |
| PDQ Food Stores, Inc.                | 66                                    | 3                                                                | 14                 | —    | —   | —    | —    | —    | —    |
| Peavey Oil Co.                       | 7                                     | 1                                                                | —                  | —    | —   | —    | —    | —    | —    |
| Phillips 66 Co.                      | 7,907                                 | 29                                                               | 391                | 338  | 611 | 29   | 85   | 236  | 328  |
| Plass Motor Fuels Inc.               | 19                                    | 2                                                                | —                  | —    | 2   | —    | —    | —    | —    |
| Pilot Corp.                          | 85                                    | 21                                                               | —                  | 1    | 1   | —    | —    | —    | —    |
| Quicktrip Corp.                      | 278                                   | 6                                                                | —                  | 48   | 64  | —    | —    | —    | 66   |
| Remote Services, Inc.                | 451                                   | 15                                                               | —                  | 1    | —   | —    | —    | —    | —    |
| Robinson Oil Co. Inc.                | 24                                    | 1                                                                | —                  | —    | —   | —    | —    | —    | —    |
| Sahara Oil Co., Inc.                 | 26                                    | 1                                                                | —                  | —    | —   | —    | —    | —    | —    |
| Shay Oil Co., Inc.                   | 18                                    | 1                                                                | —                  | —    | —   | —    | —    | —    | —    |
| Shell Oil Co.                        | 9,389                                 | 41                                                               | 0                  | 12   | 162 | 0    | 0    | 0    | 0    |
| Sinclair Oil Corp.                   | 2,612                                 | 20                                                               | 143                | 189  | 372 | 167  | 192  | 190  | 58   |
| Southern Counties Oil Co.            | 10                                    | 1                                                                | —                  | —    | —   | —    | —    | —    | —    |
| Sun Refining & Marketing Co.         | 6,019                                 | 28                                                               | —                  | 160  | 118 | —    | —    | 3    | 2    |
| Sunshine Jr. Stores, Inc.            | 297                                   | 5                                                                | —                  | —    | —   | —    | —    | —    | —    |
| Tasoro Petroleum Corp.               | 132                                   | 1                                                                | —                  | —    | —   | —    | —    | —    | —    |
| Texaco Inc.                          | 15,111                                | 49                                                               | 188                | 189  | 319 | 1    | 74   | 243  | 183  |
| Thornton Oil Corp.                   | 110                                   | 6                                                                | —                  | —    | —   | —    | —    | —    | —    |
| Thrifty Oil Corp.                    | 250                                   | 1                                                                | —                  | —    | —   | —    | —    | —    | —    |
| Time Saver Stores                    | 26                                    | 1                                                                | —                  | —    | —   | —    | —    | —    | —    |
| T.O.C. Retail Inc. dba Majik Markets | 389                                   | 11                                                               | —                  | —    | —   | —    | —    | —    | —    |
| Toolay Oil Co.                       | 6                                     | 1                                                                | —                  | —    | —   | —    | —    | —    | —    |
| Total Petroleum, Inc.                | 2,698                                 | 22                                                               | 106                | 120  | 427 | 4    | 30   | 153  | 416  |
| Ultramar, Inc.                       | 400                                   | 1                                                                | —                  | —    | —   | —    | —    | —    | —    |
| Unocal Corp.                         | 7,431(c)                              | 41                                                               | 1                  | 2    | 21  | —    | —    | 2    | 1    |
| V-1 Oil Co.                          | 36                                    | 6                                                                | —                  | —    | —   | —    | —    | —    | —    |
| Vista Marketing Group, Ltd.          | 16                                    | 4                                                                | —                  | 1    | 4   | —    | —    | —    | —    |
| Warehoo Inc.                         | 106                                   | 6                                                                | —                  | —    | —   | —    | —    | —    | —    |
| Webster Oil Co.                      | 10                                    | 1                                                                | —                  | —    | 10  | —    | —    | —    | —    |

ILLUMINATED  
SIGNSGENUINE LEXAN FACES  
UL LISTED - 5 YEAR WARRANTY**STOCK & CUSTOM****1-800-800-4629**

FAX 1-800-800-3299

FREE  
CATALOG

AMERICA'S SIGN COMPANY

P.O. BOX 161789 FT. WORTH, TX 76161



| West South Central |     |       |       | Mountain |       |      |       |      |       |      |      | Pacific |      |        |        |        |  |
|--------------------|-----|-------|-------|----------|-------|------|-------|------|-------|------|------|---------|------|--------|--------|--------|--|
| Ark.               | La. | Okla. | Texas | Mont.    | Idaho | Wyo. | Colo. | N.M. | Ariz. | Utah | Nev. | Wash.   | Ore. | Calif. | Alaska | Hawaii |  |
| —                  | —   | —     | 25    | —        | —     | —    | —     | —    | —     | —    | —    | —       | —    | —      | —      | —      |  |
| —                  | —   | —     | 13    | —        | —     | —    | —     | —    | —     | —    | 1    | —       | —    | 24     | —      | —      |  |
| —                  | —   | —     | —     | —        | —     | —    | 31    | —    | —     | —    | —    | —       | —    | —      | —      | —      |  |
| 218                | 180 | 487   | 943   | —        | 76    | 43   | 222   | 148  | —     | 168  | —    | —       | 7    | —      | —      | —      |  |
| 1                  | —   | —     | 1     | —        | —     | —    | —     | 1    | 2     | —    | —    | —       | —    | 1      | —      | —      |  |
| —                  | —   | 68    | —     | —        | —     | —    | —     | —    | —     | —    | —    | —       | —    | —      | —      | —      |  |
| —                  | —   | —     | —     | —        | —     | —    | —     | —    | —     | —    | —    | —       | —    | 24     | —      | —      |  |
| —                  | —   | —     | —     | —        | —     | —    | —     | —    | 26    | —    | —    | —       | —    | —      | —      | —      |  |
| 91                 | 409 | 2     | 594   | 0        | 24    | 0    | 6     | 74   | 18    | 17   | 38   | 211     | 179  | 1,360  | 0      | 57     |  |
| 83                 | —   | 143   | —     | 199      | 194   | 113  | 269   | 14   | 2     | 219  | 14   | 19      | 4    | —      | —      | —      |  |
| 21                 | —   | 319   | —     | —        | —     | —    | —     | —    | —     | —    | —    | —       | —    | 10     | —      | —      |  |
| —                  | 4   | —     | —     | —        | —     | —    | —     | —    | —     | —    | —    | —       | —    | —      | —      | —      |  |
| 308                | 611 | 549   | 2,353 | 2        | 93    | 70   | 298   | 185  | 306   | 198  | 80   | 544     | 344  | 950    | 132    | 44     |  |
| —                  | —   | —     | 7     | —        | —     | —    | —     | —    | —     | —    | —    | —       | —    | —      | 68     | —      |  |
| —                  | —   | —     | —     | —        | —     | —    | —     | —    | —     | —    | —    | —       | —    | 250    | —      | —      |  |
| —                  | 26  | —     | —     | —        | —     | —    | —     | —    | —     | —    | —    | —       | —    | —      | —      | —      |  |
| —                  | 36  | —     | —     | —        | —     | —    | —     | —    | —     | —    | —    | —       | —    | —      | —      | —      |  |
| 110                | 2   | 510   | 83    | —        | —     | 5    | 87    | 16   | —     | —    | —    | —       | —    | 6      | —      | —      |  |
| 86                 | 234 | 2     | 41    | 1        | 12    | —    | 1     | 2    | 191   | 35   | 66   | 272     | 192  | 400    | —      | —      |  |
| —                  | —   | —     | —     | 7        | 10    | 13   | 1     | —    | —     | 3    | —    | 2       | —    | 1,921  | 52     | 146    |  |
| —                  | —   | —     | —     | —        | —     | —    | —     | —    | —     | —    | —    | —       | —    | —      | —      | —      |  |
| —                  | —   | —     | —     | 7        | —     | 3    | —     | —    | —     | —    | 2    | —       | —    | —      | —      | —      |  |

# scully

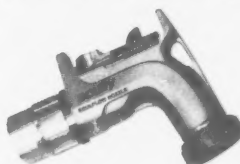
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# Average Number of Employees

(As of January 1, 1990)

| State               | Mining                 | Refining           |                  | Transportation        |                  | Wholesale          | Retail            | Total Industry   |
|---------------------|------------------------|--------------------|------------------|-----------------------|------------------|--------------------|-------------------|------------------|
|                     | Oil and Gas Extraction | Petroleum Refining | Oils and Greases | Pipelines, Except Gas | Gas Distribution | Petroleum Products | Gasoline Stations |                  |
| Alabama.....        | 1,961                  | 403                | 48               | 85                    | 3,287            | 5,794              | 8,677             | 20,255           |
| Alaska.....         | 9,084                  | 302                | 15               | 893                   | 230              | 609                | 1,061             | 12,194           |
| Arizona.....        | 114                    | N/A                | N/A              | 122                   | 1,794            | 1,403              | 9,217             | 12,650           |
| Arkansas.....       | 2,540                  | 454                | 0                | 280                   | 2,196            | 2,828              | 5,573             | 13,871           |
| California.....     | 31,367                 | 25,652             | 921              | 1,344                 | 11,127           | 14,289             | 62,670            | 147,370          |
| Colorado.....       | 12,325                 | 538                | 46               | 82                    | 1,986            | 2,345              | 9,178             | 26,496           |
| Connecticut.....    | 107                    | 0                  | 49               | 0                     | 2,208            | 1,772              | 9,271             | 13,407           |
| Delaware.....       | 11                     | 790                | 10               | 3                     | 324              | 261                | 1,360             | 2,759            |
| Dist. of Col.....   | 2,986                  | 47                 | N/A              | 1                     | 651              | 158                | 840               | 4,683            |
| Florida.....        | 486                    | 19                 | 258              | 65                    | 2,250            | 7,251              | 30,483            | 4,812            |
| Georgia.....        | 75                     | 84                 | 102              | 508                   | 3,971            | 7,099              | 18,012            | 29,851           |
| Hawaii.....         | 12                     | 464                | 0                | 0                     | 358              | 673                | 3,441             | 4,948            |
| Idaho.....          | 4                      | 0                  | 0                | 17                    | 338              | 1,514              | 3,425             | 5,298            |
| Illinois.....       | 3,136                  | 7,558              | 1,195            | 908                   | 7,749            | 10,782             | 27,896            | 59,024           |
| Indiana.....        | 463                    | 2,247              | 339              | 391                   | 2,848            | 3,470              | 18,276            | 29,034           |
| Iowa.....           | 22                     | N/A                | 127              | 129                   | 1,113            | 3,324              | 13,428            | 18,143           |
| Kansas.....         | 8,141                  | 1,926              | 353              | 2,032                 | 2,756            | 2,562              | 9,339             | 27,109           |
| Kentucky.....       | 1,810                  | 3,893              | 110              | 134                   | 2,935            | 3,192              | 11,464            | 23,538           |
| Louisiana.....      | 52,700                 | 10,600             | 636              | 1,006                 | 6,155            | 6,797              | 7,332             | 85,226           |
| Maine.....          | N/A                    | 0                  | 0                | N/A                   | N/A              | 1,397              | 3,912             | 5,309            |
| Maryland.....       | 50                     | 25                 | 292              | 42                    | 1,132            | 2,935              | 13,243            | 17,719           |
| Massachusetts.....  | 71                     | N/A                | 437              | 19                    | 5,089            | 2,634              | 15,769            | 24,019           |
| Michigan.....       | 4,090                  | 732                | 791              | 278                   | 6,595            | 6,502              | 25,955            | 44,943           |
| Minnesota.....      | 145                    | N/A                | N/A              | 215                   | 2,178            | 2,851              | 17,735            | 23,124           |
| Mississippi.....    | 5,375                  | 1,537              | 171              | 229                   | 2,120            | 3,186              | 6,632             | 19,250           |
| Missouri.....       | 75                     | N/A                | 306              | 202                   | 3,873            | 6,165              | 20,739            | 31,360           |
| Montana.....        | 1,712                  | 797                | 0                | 77                    | 369              | 1,344              | 3,337             | 7,636            |
| Nebraska.....       | 462                    | N/A                | N/A              | 86                    | 1,444            | 2,512              | 7,316             | 11,820           |
| Nevada.....         | 169                    | 7                  | 0                | 12                    | 826              | 551                | 4,337             | 5,902            |
| New Hampshire.....  | 0                      | 0                  | 0                | 3                     | 264              | 446                | 2,932             | 3,645            |
| New Jersey.....     | 85                     | 6,410              | 991              | 140                   | 2,419            | 3,821              | 18,883            | 32,749           |
| New Mexico.....     | 8,529                  | 684                | 26               | 276                   | 2,651            | 1,291              | 4,830             | 19,287           |
| New York.....       | 1,618                  | 2,237              | 430              | 134                   | 6,634            | 8,348              | 27,412            | 46,813           |
| North Carolina..... | 20                     | N/A                | 222              | 118                   | 2,887            | 5,854              | 11,566            | 20,667           |
| North Dakota.....   | 2,541                  | 219                | 126              | 139                   | 937              | 2,225              | 2,299             | 8,486            |
| Ohio.....           | 5,790                  | 6,548              | 610              | 683                   | 7,418            | 7,385              | 33,768            | 62,202           |
| Oklahoma.....       | 40,736                 | 4,484              | 664              | 1,188                 | 5,259            | 5,070              | 7,422             | 64,823           |
| Oregon.....         | 50                     | N/A                | N/A              | N/A                   | 1,370            | 2,723              | 9,117             | 13,280           |
| Pennsylvania.....   | 3,700                  | 8,300              | 800              | 700                   | 8,400            | 10,100             | 27,800            | 59,800           |
| Rhode Island.....   | N/A                    | 0                  | 6                | N/A                   | 973              | 404                | 2,387             | 3,770            |
| South Carolina..... | 28                     | N/A                | N/A              | N/A                   | 568              | 3,876              | 7,996             | 12,468           |
| South Dakota.....   | 109                    | 0                  | 0                | 54                    | 122              | 1,570              | 2,780             | 4,635            |
| Tennessee.....      | 248                    | 387                | 44               | 43                    | 1,817            | 5,715              | 11,513            | 19,767           |
| Texas.....          | 159,261                | 25,898             | 1,096            | 4,536                 | 28,077           | 28,183             | 33,017            | 280,068          |
| Utah.....           | 1,891                  | 826                | 914              | 78                    | 2,232            | 1,157              | 5,857             | 12,955           |
| Vermont.....        | N/A                    | N/A                | N/A              | N/A                   | 110              | 462                | 2,402             | 2,974            |
| Virginia.....       | 266                    | 299                | N/A              | N/A                   | 3,001            | 8,669              | 15,946            | 28,181           |
| Washington.....     | 507                    | 1,710              | N/A              | 88                    | N/A              | 2,704              | 11,060            | 16,069           |
| West Virginia.....  | 4,500                  | 245                | 163              | 87                    | 4,839            | 1,434              | 5,183             | 16,451           |
| Wisconsin.....      | N/A                    | N/A                | 55               | 192                   | 2,646            | 3,955              | 17,642            | 24,490           |
| Wyoming.....        | 8,228                  | 984                | 6                | 229                   | 1,003            | 907                | 3,229             | 14,586           |
| <b>Total.....</b>   | <b>377,600</b>         | <b>117,306</b>     | <b>12,359</b>    | <b>17,448</b>         | <b>161,529</b>   | <b>213,499</b>     | <b>635,757</b>    | <b>1,535,898</b> |

Note: Data differ from the Bureau of Labor Statistics national averages due to confidentiality rules.  
Source: Various state government agencies.

## How Distillates Were Used in 1989

(Add 000 gal.)

| Use             | 1989       | 1988       | % Change | % Share of Total Distillates Use in 1989 | % Share of Total Distillates Use in 1988 |
|-----------------|------------|------------|----------|------------------------------------------|------------------------------------------|
| Residential     | 7,501,098  | 7,662,046  | (2.1)    | 15.5                                     | 16.0                                     |
| Commercial      | 3,858,743  | 4,135,079  | (6.7)    | 8.0                                      | 8.6                                      |
| Industrial      | 2,565,293  | 2,617,639  | (2.0)    | 5.3                                      | 5.5                                      |
| Oil Company     | 845,217    | 872,133    | (3.1)    | 1.7                                      | 1.8                                      |
| Farm            | 3,196,928  | 3,420,671  | (6.5)    | 6.6                                      | 7.1                                      |
| Elec. Utilities | 1,078,887  | 800,085    | 34.8     | 2.2                                      | 1.7                                      |
| Railroad        | 3,264,229  | 3,259,250  | —        | 6.7                                      | 6.8                                      |
| Vessel          |            |            |          |                                          |                                          |
| Bunkering       | 2,356,444  | 2,310,367  | 2.0      | 4.9                                      | 4.8                                      |
| On-Highway      |            |            |          |                                          |                                          |
| Diesel          | 21,131,692 | 20,038,691 | 5.5      | 43.7                                     | 41.8                                     |
| Off-Highway     |            |            |          |                                          |                                          |
| Diesel          | 1,637,497  | 1,821,819  | (10.1)   | 3.4                                      | 3.8                                      |
| Military        | 928,316    | 980,877    | (5.4)    | 1.9                                      | 2.0                                      |
| All other       | 20,106     | 66,763     | (69.9)   | —                                        | 0.1                                      |
| U.S. Total      | 48,393,450 | 47,985,420 | 0.9      | —                                        | —                                        |

Source: Energy Information Administration, Fuel Oil and Kerosine Sales 1989, published in January 1991 as a stand-alone publication.

## How Residual Was Used in 1989

(Add 000 gal.)

| Use             | 1989       | 1988       | % Change | % Share of Total Residual Use in 1989 | % Share of Total Residual Use in 1988 |
|-----------------|------------|------------|----------|---------------------------------------|---------------------------------------|
| Commercial      | 1,537,027  | 1,788,728  | (14.1)   | 7.3                                   | 8.4                                   |
| Industrial      | 3,712,664  | 3,855,070  | (3.4)    | 17.7                                  | 18.2                                  |
| Oil Company     | 403,191    | 433,294    | (6.9)    | 1.9                                   | 2.0                                   |
| Elec. Utilities | 9,797,966  | 9,540,878  | 2.7      | 46.7                                  | 45.0                                  |
| Railroad        | 151        | 33         | 357.6    | —                                     | —                                     |
| Vessel          |            |            |          |                                       |                                       |
| Bunkering       | 5,410,263  | 5,248,981  | 3.1      | 25.8                                  | 24.8                                  |
| Military        | 105,255    | 137,287    | 23.3     | —                                     | 0.6                                   |
| All other       | 36,298     | 175,279    | (79.4)   | —                                     | 0.8                                   |
| U.S. Total      | 21,002,814 | 21,179,550 | —        | —                                     | —                                     |

Source: Energy Information Administration, Fuel Oil and Kerosine Sales 1989, published in January 1991 as a stand-alone publication.

## How Kerosine Was Used in 1989

(Add 000 gal.)

| Use         | 1989      | 1988      | % Change | % Share of Total Kerosine Use in 1989 | % Share of Total Kerosine Use in 1988 |
|-------------|-----------|-----------|----------|---------------------------------------|---------------------------------------|
| Residential | 618,322   | 770,042   | (19.7)   | 47.9                                  | 53.1                                  |
| Commercial  | 349,566   | 306,584   | 14.0     | 27.1                                  | 21.2                                  |
| Industrial  | 171,124   | 188,117   | (9.0)    | 13.2                                  | 13.0                                  |
| Farm        | 36,907    | 45,990    | (19.7)   | 2.9                                   | 3.2                                   |
| All Other   | 115,750   | 167,583   | (31.0)   | 9.0                                   | 11.6                                  |
| U.S. Total  | 1,291,668 | 1,478,316 | (12.6)   | —                                     | —                                     |

Source: Energy Information Administration, Fuel Oil and Kerosine Sales 1989, published in January 1991 as a stand-alone publication.

## How New Homes Are Heated

| Region     | New Homes Completed (Add 000) | Share of New Homes by Fuels and Percentages |          |     |        |
|------------|-------------------------------|---------------------------------------------|----------|-----|--------|
|            |                               | Gas                                         | Electric | Oil | Others |
| Northeast  | 159                           | 51%                                         | 18%      | 28% | 3%     |
| Midwest    | 191                           | 85                                          | 12       | (*) | 3      |
| South      | 420                           | 38                                          | 60       | 1   | 2      |
| West       | 257                           | 75                                          | 19       | (*) | 5      |
| Total 1989 | 1,026                         | 58%                                         | 34%      | 5%  | 3%     |
| Total 1988 | 1,085                         | 54%                                         | 37%      | 6%  | 3%     |

(\*) Negligible.

Source: Characteristics of New Housing Dept. of Commerce, Current Construction Reports; Characteristics of New Housing.

## Gas: Who Uses It for Heat

| Region                 | % of Gas-Heated Homes To Total Gas-Using Homes | Consumers Added in 1989 (Add 000) |                |             |
|------------------------|------------------------------------------------|-----------------------------------|----------------|-------------|
|                        |                                                | New Homes                         | Existing Homes | Total Added |
| New England            | 71.3                                           | 17.6                              | 23.2           | 40.8        |
| Mid-Atlantic           | 66.5                                           | 70.7                              | 50.0           | 120.7       |
| East North Central     | 95.0                                           | 140.5                             | 30.0           | 170.5       |
| West North Central     | 97.5                                           | 49.3                              | 10.2           | 59.5        |
| South Atlantic         | 78.3                                           | 83.3                              | 22.3           | 105.6       |
| East South Central     | 86.1                                           | 15.8                              | 9.3            | 25.1        |
| West South Central     | 94.3                                           | 34.8                              | 2.6            | 37.4        |
| Mountain               | 92.3                                           | 46.4                              | 8.3            | 54.7        |
| Pacific                | 98.3                                           | 193.9                             | 25.4           | 219.3       |
| Total                  | 88.0                                           | 652.4                             | 181.3          | 833.7       |
| % Change 1989 vs. 1988 | —                                              | (7.1)                             | (2.1)          | (8.0)       |

Source: American Gas Association, House Heating Survey 1989, Table #2.

## 1990 Gas Heat Equipment Shipments

| Class and Type of Equipment | 1990      | 1989      | % Change |
|-----------------------------|-----------|-----------|----------|
| Central Heating:            |           |           |          |
| Furnaces                    | 1,950,465 | 2,162,185 | (9.8)    |
| Boilers                     | 204,004   | 191,803   | 6.4      |
| Space Heating:              |           |           |          |
| Wall Furnaces               |           |           |          |
| Vented                      | 150,930   | 173,410   | (13.0)   |
| RV Systems                  | N/A       | N/A       | —        |
| Water Heaters:              |           |           |          |
| Gas                         | 3,906,264 | 4,130,469 | (5.4)    |
| Electric                    | 3,226,321 | 3,369,321 | (4.2)    |
| Oil (a)                     | 36,000    | 36,000    | —        |

(a) Estimated by fuel oil industry sources for comparison.  
Source: Gas Appliance Manufacturers Association.

# Distillate Sales in 1988 and 1989...

(Add 000 gal.)

| Destination             | Residential      |                  | Commercial       |                  | Industrial       |                  |
|-------------------------|------------------|------------------|------------------|------------------|------------------|------------------|
|                         | 1988             | 1989             | 1988             | 1989             | 1988             | 1989             |
| <b>PAD District 1</b>   |                  |                  |                  |                  |                  |                  |
| Connecticut .....       | 551,570          | 597,477          | 126,954          | 143,928          | 41,539           | 39,079           |
| Delaware .....          | 58,492           | 55,486           | 16,393           | 12,513           | 8,396            | 8,934            |
| Dist. of Col. ....      | 12,392           | 6,115            | 22,978           | 22,669           | 41               | 107              |
| Florida .....           | 21,929           | 15,238           | 139,057          | 116,672          | 34,013           | 39,961           |
| Georgia .....           | 10,821           | 11,208           | 50,504           | 40,934           | 36,948           | 43,679           |
| Maine .....             | 250,661          | 238,445          | 75,085           | 68,062           | 25,728           | 27,390           |
| Maryland .....          | 248,603          | 215,803          | 78,171           | 84,163           | 28,327           | 28,770           |
| Massachusetts ..        | 778,311          | 862,166          | 267,161          | 325,448          | 81,932           | 84,689           |
| New Hampshire ..        | 155,027          | 180,907          | 48,426           | 49,823           | 12,381           | 12,902           |
| New Jersey .....        | 733,996          | 668,788          | 331,693          | 342,936          | 84,121           | 70,026           |
| New York .....          | 1,529,357        | 1,460,843        | 618,101          | 649,743          | 55,117           | 62,048           |
| North Carolina ..       | 240,830          | 196,372          | 129,619          | 98,741           | 81,008           | 81,108           |
| Pennsylvania .....      | 830,514          | 925,768          | 234,527          | 306,381          | 193,592          | 150,398          |
| Rhode Island .....      | 151,241          | 133,478          | 33,914           | 32,707           | 9,660            | 9,234            |
| South Carolina ..       | 47,027           | 53,820           | 44,277           | 38,861           | 21,804           | 24,867           |
| Vermont .....           | 81,504           | 90,843           | 29,000           | 30,329           | 8,010            | 8,474            |
| Virginia .....          | 292,714          | 263,958          | 109,142          | 98,760           | 77,482           | 74,019           |
| West Virginia .....     | 24,079           | 27,056           | 15,011           | 20,776           | 82,313           | 81,502           |
| <b>Total .....</b>      | <b>6,019,068</b> | <b>6,003,771</b> | <b>2,370,013</b> | <b>2,483,446</b> | <b>882,412</b>   | <b>847,187</b>   |
| <b>PAD District 2</b>   |                  |                  |                  |                  |                  |                  |
| Illinois .....          | 89,088           | 86,377           | 82,151           | 59,185           | 72,447           | 75,864           |
| Indiana .....           | 117,319          | 97,159           | 56,174           | 48,503           | 71,576           | 84,897           |
| Iowa .....              | 46,844           | 44,732           | 28,766           | 20,585           | 19,781           | 13,458           |
| Kansas .....            | 1,254            | 1,345            | 16,178           | 14,002           | 14,194           | 10,401           |
| Kentucky .....          | 37,225           | 31,287           | 40,876           | 27,261           | 152,600          | 139,924          |
| Michigan .....          | 244,362          | 200,352          | 102,033          | 87,247           | 78,573           | 50,080           |
| Minnesota .....         | 183,729          | 188,737          | 46,264           | 43,396           | 41,621           | 36,800           |
| Missouri .....          | 26,635           | 19,892           | 89,849           | 38,886           | 38,594           | 33,430           |
| Nebraska .....          | 8,355            | 10,456           | 12,554           | 9,561            | 5,116            | 5,046            |
| North Dakota .....      | 40,530           | 38,339           | 6,467            | 7,804            | 12,640           | 17,825           |
| Ohio .....              | 195,507          | 192,031          | 93,700           | 70,839           | 106,464          | 111,409          |
| Oklahoma .....          | 1,172            | 17               | 26,213           | 26,779           | 24,679           | 22,281           |
| South Dakota .....      | 38,625           | 37,803           | 14,495           | 9,253            | 8,409            | 5,144            |
| Tennessee .....         | 9,476            | 10,270           | 46,311           | 27,900           | 42,657           | 31,685           |
| Wisconsin .....         | 273,650          | 226,563          | 75,758           | 84,664           | 29,508           | 21,416           |
| <b>Total .....</b>      | <b>1,313,771</b> | <b>1,165,360</b> | <b>717,889</b>   | <b>575,845</b>   | <b>718,659</b>   | <b>659,460</b>   |
| <b>PAD District 3</b>   |                  |                  |                  |                  |                  |                  |
| Alabama .....           | 1,773            | 1,442            | 47,236           | 51,571           | 88,349           | 81,243           |
| Arkansas .....          | 55               | 32               | 10,684           | 18,475           | 20,300           | 22,918           |
| Louisiana .....         | 99               | 323              | 54,428           | 35,497           | 36,289           | 24,230           |
| Mississippi .....       | 180              | 273              | 25,175           | 35,915           | 34,130           | 23,570           |
| New Mexico .....        | 514              | 441              | 23,573           | 21,249           | 71,161           | 44,243           |
| Texas .....             | 1,334            | 539              | 234,553          | 163,537          | 184,732          | 236,711          |
| <b>Total .....</b>      | <b>3,955</b>     | <b>3,050</b>     | <b>395,649</b>   | <b>326,244</b>   | <b>434,961</b>   | <b>432,915</b>   |
| <b>PAD District 4</b>   |                  |                  |                  |                  |                  |                  |
| Colorado .....          | 2,221            | 1,753            | 42,770           | 22,623           | 45,199           | 35,260           |
| Idaho .....             | 25,838           | 23,431           | 18,114           | 14,824           | 20,019           | 30,087           |
| Montana .....           | 9,850            | 15,377           | 8,361            | 8,558            | 18,124           | 45,880           |
| Utah .....              | 5,520            | 7,680            | 29,284           | 19,280           | 40,870           | 32,114           |
| Wyoming .....           | 1,293            | 1,396            | 11,315           | 10,479           | 47,085           | 54,353           |
| <b>Total .....</b>      | <b>44,722</b>    | <b>49,637</b>    | <b>109,844</b>   | <b>75,564</b>    | <b>171,297</b>   | <b>197,694</b>   |
| <b>PAD District 5</b>   |                  |                  |                  |                  |                  |                  |
| Alaska .....            | 53,971           | 63,744           | 36,760           | 34,630           | 27,629           | 35,482           |
| Arizona .....           | 264              | 283              | 20,391           | 15,715           | 37,327           | 59,550           |
| California .....        | 9,580            | 10,108           | 265,230          | 193,766          | 215,198          | 168,271          |
| Hawaii .....            | 74               | 17               | 25,357           | 20,800           | 4,738            | 4,090            |
| Nevada .....            | 12,216           | 10,587           | 19,107           | 15,896           | 57,528           | 94,996           |
| Oregon .....            | 77,372           | 79,305           | 63,832           | 45,131           | 29,093           | 27,587           |
| Washington .....        | 127,023          | 115,235          | 111,008          | 71,707           | 38,595           | 38,062           |
| <b>Total .....</b>      | <b>280,500</b>   | <b>279,279</b>   | <b>541,685</b>   | <b>397,645</b>   | <b>410,108</b>   | <b>428,038</b>   |
| <b>U.S. Total .....</b> | <b>7,662,016</b> | <b>7,501,097</b> | <b>4,135,080</b> | <b>3,858,744</b> | <b>2,617,637</b> | <b>2,565,294</b> |

Source: Distillate, kerosine and residual fuel oil sales data, Energy Information Administration, Fuel Oil and Kerosine Sales 1989, published January 1991.



# ...By End Use

(Add 000 gal.)

**Special note:** Since 1985, the Energy Information Administration (EIA) has been publishing two sets of data in its annual report on fuel oil and kerosine sales. The original objective was to abandon one and retain the other. Because of statistical disparities, this switch-over has been delayed indefinitely. The data on these pages are called "sales" by the EIA, but are compatible with prior NPN FACTBOOK summaries called "deliveries" in the past.

| Destination             | Oil Company    |                | Farm             |                  | Electric Utility |                  |
|-------------------------|----------------|----------------|------------------|------------------|------------------|------------------|
|                         | 1988           | 1989           | 1988             | 1989             | 1988             | 1989             |
| <b>PAD District 1</b>   |                |                |                  |                  |                  |                  |
| Connecticut .....       | 240            | 286            | 1,905            | 2,520            | 2,405            | 5,386            |
| Delaware .....          | 380            | 269            | 6,477            | 5,541            | 6,261            | 14,312           |
| Dist. of Col. ....      | —              | —              | —                | —                | 71,720           | 71,970           |
| Florida .....           | 938            | 979            | 83,471           | 47,533           | 56,055           | 79,629           |
| Georgia .....           | 156            | 280            | 66,123           | 82,966           | 12,510           | 16,155           |
| Maine .....             | 11             | 403            | 6,112            | 4,540            | 606              | 2,915            |
| Maryland .....          | 843            | 968            | 24,984           | 23,920           | 16,697           | 63,558           |
| Massachusetts ..        | 853            | 763            | 2,447            | 2,910            | 22,055           | 24,448           |
| New Hampshire ..        | 63             | 107            | 2,303            | 1,961            | 1,233            | 3,306            |
| New Jersey .....        | 4,946          | 4,236          | 16,849           | 19,113           | 33,155           | 54,808           |
| New York .....          | 7,506          | 10,284         | 50,739           | 48,870           | 81,982           | 114,115          |
| North Carolina ..       | 22             | 81             | 43,810           | 39,584           | 18,434           | 22,419           |
| Pennsylvania .....      | 14,121         | 16,087         | 33,615           | 46,838           | 60,890           | 82,654           |
| Rhode Island .....      | 300            | 249            | 232              | 199              | 2,164            | 1,961            |
| South Carolina ..       | 692            | 299            | 21,478           | 27,394           | 8,692            | 11,880           |
| Vermont .....           | 25             | 23             | 8,679            | 6,851            | 1,908            | 1,517            |
| Virginia .....          | 1,191          | 1,088          | 29,428           | 32,398           | 17,231           | 33,892           |
| West Virginia .....     | 2,873          | 1,931          | 5,091            | 4,960            | 6,316            | 22,472           |
| <b>Total .....</b>      | <b>35,160</b>  | <b>38,333</b>  | <b>403,743</b>   | <b>398,098</b>   | <b>420,314</b>   | <b>627,397</b>   |
| <b>PAD District 2</b>   |                |                |                  |                  |                  |                  |
| Illinois .....          | 7,540          | 6,078          | 189,073          | 170,578          | 29,615           | 24,651           |
| Indiana .....           | 1,289          | 930            | 85,050           | 84,188           | 19,048           | 29,115           |
| Iowa .....              | 55             | 71             | 175,643          | 147,584          | 8,624            | 4,832            |
| Kansas .....            | 7,730          | 8,024          | 146,670          | 132,404          | 6,280            | 7,468            |
| Kentucky .....          | 574            | 683            | 44,062           | 38,602           | 8,740            | 17,107           |
| Michigan .....          | 3,878          | 1,353          | 75,242           | 59,830           | 34,125           | 37,789           |
| Minnesota .....         | 512            | 524            | 154,086          | 129,423          | 8,439            | 6,384            |
| Missouri .....          | 465            | 315            | 75,031           | 79,324           | 5,594            | 9,620            |
| Nebraska .....          | 458            | 22             | 159,059          | 145,637          | 647              | 3,902            |
| North Dakota .....      | 2,686          | 4,421          | 82,674           | 89,892           | 1,999            | 4,302            |
| Ohio .....              | 7,547          | 6,153          | 75,940           | 74,818           | 20,205           | 21,269           |
| Oklahoma .....          | 23,790         | 30,983         | 51,635           | 41,123           | 66               | 542              |
| South Dakota .....      | 11             | 12             | 91,500           | 74,497           | 1,265            | 862              |
| Tennessee .....         | 984            | 551            | 37,538           | 39,597           | 2,842            | 3,447            |
| Wisconsin .....         | 724            | 430            | 82,151           | 85,923           | 9,551            | 17,090           |
| <b>Total .....</b>      | <b>58,243</b>  | <b>60,550</b>  | <b>1,525,354</b> | <b>1,393,420</b> | <b>161,040</b>   | <b>188,380</b>   |
| <b>PAD District 3</b>   |                |                |                  |                  |                  |                  |
| Alabama .....           | 2,159          | 9,997          | 37,124           | 60,320           | 7,208            | 10,486           |
| Arkansas .....          | 1,160          | 4,913          | 153,512          | 92,106           | 11,103           | 11,073           |
| Louisiana .....         | 301,589        | 328,594        | 177,694          | 91,754           | 13,349           | 20,371           |
| Mississippi .....       | 40,260         | 18,459         | 122,241          | 133,238          | 4,361            | 5,072            |
| New Mexico .....        | 16,701         | 11,533         | 26,954           | 16,925           | 387              | 6,351            |
| Texas .....             | 309,844        | 302,383        | 387,089          | 345,675          | 35,245           | 61,532           |
| <b>Total .....</b>      | <b>671,713</b> | <b>675,879</b> | <b>904,614</b>   | <b>740,018</b>   | <b>71,653</b>    | <b>114,885</b>   |
| <b>PAD District 4</b>   |                |                |                  |                  |                  |                  |
| Colorado .....          | 4,329          | 1,316          | 62,193           | 54,657           | 3,088            | 5,161            |
| Idaho .....             | 93             | 8              | 66,078           | 68,266           | 48               | 27               |
| Montana .....           | 1,032          | 1,093          | 37,452           | 53,859           | 1,043            | 2,552            |
| Utah .....              | 1,555          | 4,459          | 16,783           | 9,556            | 4,386            | 4,293            |
| Wyoming .....           | 13,434         | 14,038         | 10,187           | 9,713            | 5,931            | 6,899            |
| <b>Total .....</b>      | <b>20,443</b>  | <b>20,914</b>  | <b>192,693</b>   | <b>196,151</b>   | <b>14,496</b>    | <b>18,932</b>    |
| <b>PAD District 5</b>   |                |                |                  |                  |                  |                  |
| Alaska .....            | 42,770         | 27,330         | 358              | 257              | 34,863           | 21,953           |
| Arizona .....           | 231            | 67             | 22,433           | 31,647           | 4,993            | 4,382            |
| California .....        | 40,105         | 19,399         | 254,767          | 302,124          | 28,521           | 19,719           |
| Hawaii .....            | 1,782          | 923            | 18,509           | 11,132           | 60,862           | 74,240           |
| Nevada .....            | 165            | 321            | 8,360            | 5,187            | 1,768            | 2,639            |
| Oregon .....            | 620            | 279            | 49,234           | 49,245           | 467              | 5,363            |
| Washington .....        | 900            | 1,222          | 40,608           | 69,650           | 1,110            | 1,017            |
| <b>Total .....</b>      | <b>86,573</b>  | <b>49,541</b>  | <b>394,269</b>   | <b>469,242</b>   | <b>132,584</b>   | <b>129,313</b>   |
| <b>U.S. Total .....</b> | <b>872,132</b> | <b>845,217</b> | <b>3,420,673</b> | <b>3,196,929</b> | <b>800,087</b>   | <b>1,078,887</b> |

# Distillate Sales in 1988 and 1989...

(Add 000 gal.)

| Destination             | Railroad         |                  | Vessel Bunkering |                  | On-Highway        |                   |
|-------------------------|------------------|------------------|------------------|------------------|-------------------|-------------------|
|                         | 1988             | 1989             | 1988             | 1989             | 1988              | 1989              |
| <b>PAD District 1</b>   |                  |                  |                  |                  |                   |                   |
| Connecticut .....       | 148              | 5,413            | 6,717            | 1,956            | 212,589           | 257,361           |
| Delaware .....          | 1,754            | 1,038            | 3,663            | 3,259            | 55,412            | 74,089            |
| Dist. of Col. ....      | 4,124            | 13,287           | 34               | 22               | 23,033            | 23,064            |
| Florida .....           | 98,562           | 85,557           | 105,463          | 89,628           | 832,093           | 899,369           |
| Georgia .....           | 86,978           | 65,938           | 24,757           | 34,882           | 831,267           | 838,847           |
| Maine .....             | 9,209            | 6,424            | 9,216            | 12,263           | 175,344           | 139,908           |
| Maryland .....          | 32,461           | 41,025           | 8,129            | 8,709            | 299,521           | 351,150           |
| Massachusetts .....     | 5,786            | 19,733           | 28,320           | 38,242           | 293,007           | 271,944           |
| New Hampshire ..        | 147              | 36               | 513              | 337              | 58,051            | 59,561            |
| New Jersey .....        | 51,938           | 62,696           | 131,351          | 119,169          | 477,858           | 453,482           |
| New York .....          | 37,347           | 17,584           | 10,926           | 9,925            | 713,826           | 754,276           |
| North Carolina ..       | 54,875           | 37,167           | 8,625            | 8,638            | 711,035           | 614,485           |
| Pennsylvania .....      | 86,371           | 43,997           | 25,185           | 25,854           | 928,175           | 915,865           |
| Rhode Island .....      | 353              | 534              | 1,173            | 5,896            | 43,741            | 52,932            |
| South Carolina ..       | 37,173           | 30,946           | 8,945            | 5,381            | 310,365           | 302,614           |
| Vermont .....           | 3,266            | 3,177            | 352              | 367              | 53,918            | 46,250            |
| Virginia .....          | 123,612          | 94,408           | 52,397           | 25,289           | 532,848           | 537,569           |
| West Virginia .....     | 12,668           | 26,318           | 44,799           | 63,497           | 160,141           | 159,972           |
| <b>Total .....</b>      | <b>646,772</b>   | <b>555,278</b>   | <b>470,565</b>   | <b>453,314</b>   | <b>6,712,224</b>  | <b>6,752,738</b>  |
| <b>PAD District 2</b>   |                  |                  |                  |                  |                   |                   |
| Illinois .....          | 91,107           | 139,446          | 25,426           | 32,932           | 771,386           | 839,968           |
| Indiana .....           | 194,874          | 227,166          | 10,966           | 9,233            | 628,647           | 784,441           |
| Iowa .....              | 37,483           | 33,941           | 1,600            | 2,403            | 333,931           | 349,044           |
| Kansas .....            | 151,350          | 169,928          | —                | —                | 331,926           | 303,893           |
| Kentucky .....          | 122,547          | 116,502          | 85,058           | 98,114           | 512,517           | 692,215           |
| Michigan .....          | 43,557           | 42,684           | 10,373           | 4,558            | 526,217           | 528,906           |
| Minnesota .....         | 42,964           | 39,444           | 1,165            | 2,674            | 331,701           | 331,625           |
| Missouri .....          | 35,426           | 34,875           | 46,860           | 44,001           | 535,424           | 641,680           |
| Nebraska .....          | 162,856          | 122,799          | —                | 66               | 217,014           | 208,258           |
| North Dakota .....      | 39,663           | 36,451           | —                | —                | 89,873            | 90,544            |
| Ohio .....              | 151,825          | 123,607          | 4,210            | 8,442            | 861,428           | 960,195           |
| Oklahoma .....          | 66,814           | 78,303           | 369              | 266              | 394,165           | 394,174           |
| South Dakota .....      | 1,767            | 2,374            | —                | —                | 91,906            | 91,221            |
| Tennessee .....         | 93,724           | 62,179           | 103,212          | 175,079          | 578,829           | 587,396           |
| Wisconsin .....         | 61,036           | 106,289          | 5,828            | 3,022            | 440,836           | 449,764           |
| <b>Total .....</b>      | <b>1,296,993</b> | <b>1,335,988</b> | <b>295,067</b>   | <b>380,790</b>   | <b>5,645,900</b>  | <b>7,253,324</b>  |
| <b>PAD District 3</b>   |                  |                  |                  |                  |                   |                   |
| Alabama .....           | 66,615           | 67,231           | 65,291           | 139,715          | 480,340           | 544,882           |
| Arkansas .....          | 21,825           | 35,200           | 257              | 666              | 346,026           | 395,236           |
| Louisiana .....         | 73,523           | 78,996           | 504,804          | 460,005          | 383,054           | 385,621           |
| Mississippi .....       | 15,565           | 17,890           | 105,086          | 75,914           | 302,361           | 302,523           |
| New Mexico .....        | 46,652           | 52,161           | —                | —                | 204,734           | 205,916           |
| Texas .....             | 373,144          | 389,367          | 274,752          | 322,318          | 1,296,067         | 1,387,059         |
| <b>Total .....</b>      | <b>597,324</b>   | <b>640,845</b>   | <b>950,190</b>   | <b>998,618</b>   | <b>3,012,582</b>  | <b>3,221,237</b>  |
| <b>PAD District 4</b>   |                  |                  |                  |                  |                   |                   |
| Colorado .....          | 70,093           | 88,610           | —                | 64               | 188,922           | 185,519           |
| Idaho .....             | 23,782           | 19,728           | 81               | 71               | 99,626            | 117,246           |
| Montana .....           | 59,640           | 59,283           | —                | —                | 115,899           | 119,503           |
| Utah .....              | 35,188           | 34,842           | —                | —                | 149,108           | 125,184           |
| Wyoming .....           | 111,999          | 109,985          | —                | —                | 171,874           | 187,452           |
| <b>Total .....</b>      | <b>300,702</b>   | <b>312,448</b>   | <b>81</b>        | <b>135</b>       | <b>725,429</b>    | <b>734,904</b>    |
| <b>PAD District 5</b>   |                  |                  |                  |                  |                   |                   |
| Alaska .....            | 3,042            | 4,963            | 63,341           | 132,087          | 83,235            | 96,446            |
| Arizona .....           | 23,781           | 8,348            | —                | —                | 299,981           | 314,671           |
| California .....        | 194,446          | 218,393          | 370,162          | 198,830          | 1,760,085         | 1,913,647         |
| Hawaii .....            | 19               | 17               | 60,545           | 82,832           | 21,935            | 23,717            |
| Nevada .....            | 29,855           | 23,511           | —                | —                | 118,022           | 131,055           |
| Oregon .....            | 91,261           | 86,388           | 33,063           | 34,274           | 302,381           | 311,843           |
| Washington .....        | 75,056           | 78,045           | 67,352           | 75,565           | 357,017           | 378,110           |
| <b>Total .....</b>      | <b>417,460</b>   | <b>419,665</b>   | <b>594,463</b>   | <b>523,588</b>   | <b>2,942,656</b>  | <b>3,169,489</b>  |
| <b>U.S. Total .....</b> | <b>3,259,251</b> | <b>3,264,224</b> | <b>2,310,366</b> | <b>2,356,445</b> | <b>20,038,691</b> | <b>21,131,692</b> |

## ...By End Use (Continued)

(Add 000 gal.)

| Destination            | Military       |                | Off-Highway      |                  | All Other     |               | Total             |                   |
|------------------------|----------------|----------------|------------------|------------------|---------------|---------------|-------------------|-------------------|
|                        | 1988           | 1989           | 1988             | 1989             | 1988          | 1989          | 1988              | 1989              |
| <b>PAD District 1</b>  |                |                |                  |                  |               |               |                   |                   |
| Connecticut .....      | 1,305          | 611            | 12,010           | 18,713           | 281           | 480           | 957,661           | 1,073,210         |
| Delaware .....         | 33             | 85             | 3,384            | 4,202            | 94            | —             | 160,738           | 179,727           |
| Dist. of Col. ....     | 8,836          | 2,996          | 81               | 31               | —             | —             | 143,240           | 140,261           |
| Florida .....          | 28,773         | 20,305         | 56,154           | 65,627           | 1,489         | 1,307         | 1,457,996         | 1,461,804         |
| Georgia .....          | 12,085         | 9,153          | 35,397           | 38,179           | 4,165         | 1,610         | 1,171,711         | 1,183,830         |
| Maine .....            | 2,304          | 2,984          | 20,028           | 12,836           | —             | 39            | 574,305           | 516,210           |
| Maryland .....         | 3,930          | 22,336         | 15,272           | 32,165           | 2,710         | 2,569         | 759,648           | 875,137           |
| Massachusetts .....    | 3,850          | 1,988          | 17,627           | 18,219           | 66            | —             | 1,501,415         | 1,650,549         |
| New Hampshire ..       | 75             | 1,542          | 6,110            | 7,674            | —             | —             | 284,329           | 318,155           |
| New Jersey .....       | 6,008          | 9,124          | 28,363           | 52,452           | 32            | 48            | 1,900,310         | 1,856,878         |
| New York .....         | 12,611         | 10,410         | 41,963           | 40,298           | 263           | 3             | 3,159,737         | 3,178,401         |
| North Carolina ....    | 4,308          | 7,794          | 28,443           | 26,655           | 2,780         | 2,234         | 1,323,790         | 1,135,279         |
| Pennsylvania .....     | 4,653          | 10,677         | 45,595           | 51,847           | 187           | 718           | 2,457,425         | 2,577,083         |
| Rhode Island .....     | 5,682          | 7,748          | 999              | 3,344            | 185           | 79            | 249,646           | 248,361           |
| South Carolina ....    | 3,221          | 2,557          | 24,928           | 26,601           | 1,277         | 908           | 529,879           | 526,128           |
| Vermont .....          | 620            | 229            | 7,404            | 5,717            | 142           | —             | 194,829           | 193,778           |
| Virginia .....         | 80,442         | 30,664         | 53,024           | 36,720           | 2,112         | 1,299         | 1,371,623         | 1,230,064         |
| West Virginia .....    | 498            | 163            | 18,285           | 20,358           | 28            | 13            | 372,102           | 429,017           |
| <b>Total.....</b>      | <b>179,234</b> | <b>141,366</b> | <b>415,067</b>   | <b>461,638</b>   | <b>15,811</b> | <b>11,307</b> | <b>18,570,384</b> | <b>18,773,872</b> |
| <b>PAD District 2</b>  |                |                |                  |                  |               |               |                   |                   |
| Illinois .....         | 1,879          | 4,430          | 56,630           | 37,553           | 3,544         | 161           | 1,419,887         | 1,457,021         |
| Indiana .....          | 4,031          | 6,569          | 17,954           | 29,465           | 3,198         | 2,819         | 1,210,126         | 1,404,487         |
| Iowa .....             | 110            | 272            | 17,335           | 9,595            | 2,848         | 1,876         | 673,021           | 628,372           |
| Kansas .....           | 1,947          | 855            | 17,127           | 12,352           | 1,518         | 1,601         | 696,175           | 662,271           |
| Kentucky .....         | 10,793         | 5,419          | 21,276           | 21,811           | 719           | 19            | 1,037,117         | 1,188,945         |
| Michigan .....         | 3,222          | 3,146          | 49,716           | 45,397           | 2,192         | 1,744         | 1,173,490         | 1,063,066         |
| Minnesota .....        | 2,704          | 2,030          | 23,638           | 26,163           | 2,122         | 1,818         | 838,945           | 809,017           |
| Missouri .....         | 6,309          | 4,994          | 37,120           | 21,499           | 6,791         | 1,165         | 888,098           | 929,681           |
| Nebraska .....         | 1,423          | 1,063          | 18,094           | 17,083           | —             | —             | 585,578           | 523,895           |
| North Dakota .....     | 2,505          | 1,344          | 5,470            | 4,509            | 76            | 194           | 284,583           | 295,626           |
| Ohio .....             | 9,006          | 8,597          | 27,752           | 27,963           | 358           | 335           | 1,553,942         | 1,605,659         |
| Oklahoma .....         | 2,412          | 1,491          | 28,108           | 22,047           | 4,616         | 227           | 624,037           | 618,234           |
| South Dakota .....     | 730            | 512            | 11,684           | 5,642            | 336           | 540           | 260,730           | 227,860           |
| Tennessee .....        | 1,054          | 2,785          | 59,940           | 26,619           | 1,236         | 650           | 977,804           | 968,157           |
| Wisconsin .....        | 2,626          | 1,064          | 22,398           | 32,652           | 11,264        | 776           | 1,015,329         | 1,029,655         |
| <b>Total.....</b>      | <b>50,751</b>  | <b>44,571</b>  | <b>414,242</b>   | <b>340,350</b>   | <b>40,818</b> | <b>13,925</b> | <b>13,238,862</b> | <b>13,411,946</b> |
| <b>PAD District 3</b>  |                |                |                  |                  |               |               |                   |                   |
| Alabama .....          | 4,853          | 6,335          | 53,110           | 63,870           | 3,578         | 1,999         | 857,636           | 1,039,092         |
| Arkansas .....         | 2,467          | 2,069          | 30,943           | 32,128           | 2,793         | 63            | 601,123           | 614,878           |
| Louisiana .....        | 20,995         | 83,075         | 74,854           | 54,974           | 297           | 275           | 1,640,937         | 1,563,715         |
| Mississippi .....      | 116,607        | 73,439         | 33,755           | 33,576           | 880           | 162           | 800,602           | 720,030           |
| New Mexico .....       | 1,882          | 912            | 35,167           | 21,484           | 0             | 48            | 427,725           | 381,263           |
| Texas .....            | 260,820        | 276,348        | 277,203          | 170,936          | 1,232         | 879           | 3,636,015         | 3,657,284         |
| <b>Total.....</b>      | <b>407,624</b> | <b>442,178</b> | <b>505,032</b>   | <b>376,968</b>   | <b>8,780</b>  | <b>3,426</b>  | <b>7,964,038</b>  | <b>7,976,262</b>  |
| <b>PAD District 4</b>  |                |                |                  |                  |               |               |                   |                   |
| Colorado .....         | 8,482          | 8,353          | 43,198           | 27,355           | 33            | 46            | 470,526           | 430,717           |
| Idaho .....            | 2,542          | 738            | 17,004           | 13,872           | —             | 26            | 273,223           | 288,124           |
| Montana .....          | 480            | 351            | 11,171           | 15,989           | 213           | 25            | 263,266           | 322,470           |
| Utah .....             | 3,797          | 4,120          | 21,284           | 18,551           | —             | —             | 307,776           | 260,179           |
| Wyoming .....          | 283            | 186            | 22,388           | 17,844           | 165           | 353           | 395,953           | 412,697           |
| <b>Total.....</b>      | <b>15,584</b>  | <b>13,748</b>  | <b>115,045</b>   | <b>93,611</b>    | <b>411</b>    | <b>450</b>    | <b>1,710,744</b>  | <b>1,714,187</b>  |
| <b>PAD District 5</b>  |                |                |                  |                  |               |               |                   |                   |
| Alaska .....           | 17,561         | 34,075         | 13,855           | 13,980           | 40            | —             | 377,423           | 464,948           |
| Arizona .....          | 1,324          | 2,253          | 25,285           | 37,978           | —             | —             | 436,010           | 474,894           |
| California .....       | 221,645        | 205,471        | 208,735          | 193,260          | 811           | —             | 3,569,284         | 3,442,990         |
| Hawaii .....           | 54,672         | 31,149         | 7,227            | 5,428            | —             | —             | 255,720           | 254,345           |
| Nevada .....           | 4,928          | 4,401          | 32,792           | 24,066           | 33            | —             | 284,773           | 312,658           |
| Oregon .....           | 1,390          | 733            | 43,412           | 44,577           | —             | —             | 692,124           | 684,725           |
| Washington .....       | 26,205         | 8,370          | 41,125           | 45,640           | 59            | —             | 886,056           | 882,623           |
| <b>Total.....</b>      | <b>327,725</b> | <b>286,452</b> | <b>372,431</b>   | <b>364,929</b>   | <b>943</b>    | <b>—</b>      | <b>6,501,390</b>  | <b>6,517,183</b>  |
| <b>U.S. Total.....</b> | <b>980,918</b> | <b>928,315</b> | <b>1,821,817</b> | <b>3,254,629</b> | <b>66,763</b> | <b>29,108</b> | <b>47,985,418</b> | <b>48,393,450</b> |

## Kerosine Sales in 1988 and 1989...

(Add 000 gal.)

| Destination             | Residential    |                | Commercial     |                | Industrial     |                |
|-------------------------|----------------|----------------|----------------|----------------|----------------|----------------|
|                         | 1988           | 1989           | 1988           | 1989           | 1988           | 1989           |
| <b>PAD District 1</b>   |                |                |                |                |                |                |
| Connecticut .....       | 7,811          | 5,978          | 1,288          | 2,972          | 4,842          | 1,910          |
| Delaware .....          | 5,883          | 5,527          | 521            | 127            | 48             | 155            |
| Dist. of Col. ....      | 164            | 223            | 83             | 982            | 5              | —              |
| Florida .....           | 12,691         | 7,816          | 8,109          | 7,313          | 797            | 1,910          |
| Georgia .....           | 3,989          | 3,634          | 411            | 1,494          | 717            | 1,087          |
| Maine .....             | 15,219         | 16,487         | 3,091          | 1,925          | 344            | 178            |
| Maryland .....          | 25,536         | 16,679         | 1,228          | 1,820          | 2,064          | 1,200          |
| Massachusetts ..        | 5,811          | 5,541          | 1,369          | 1,323          | 800            | 758            |
| New Hampshire ..        | 8,488          | 9,627          | 846            | 1,112          | 135            | 41             |
| New Jersey .....        | 9,149          | 11,704         | 2,254          | 5,406          | 2,218          | 12,669         |
| New York .....          | 80,759         | 56,848         | 4,023          | 10,555         | 14,520         | 13,446         |
| North Carolina ...      | 79,124         | 61,797         | 4,985          | 3,618          | 3,597          | 2,454          |
| Pennsylvania .....      | 56,638         | 51,980         | 8,158          | 5,827          | 4,418          | 3,285          |
| Rhode Island .....      | 1,858          | 1,172          | 53             | 94             | 0              | 5              |
| South Carolina ...      | 24,839         | 24,323         | 503            | 1,448          | 2,166          | 2,183          |
| Vermont .....           | 5,967          | 5,698          | 1,231          | 1,183          | 866            | 101            |
| Virginia .....          | 51,006         | 46,601         | 5,242          | 5,750          | 1,038          | 1,615          |
| West Virginia .....     | 7,714          | 7,077          | 1,538          | 1,559          | 832            | 1,230          |
| <b>Total .....</b>      | <b>402,646</b> | <b>338,612</b> | <b>44,933</b>  | <b>54,608</b>  | <b>39,407</b>  | <b>44,227</b>  |
| <b>PAD District 2</b>   |                |                |                |                |                |                |
| Illinois .....          | 8,177          | 9,435          | 2,229          | 2,868          | 1,693          | 2,708          |
| Indiana .....           | 19,572         | 24,181         | 2,960          | 1,805          | 2,782          | 2,484          |
| Iowa .....              | 2,944          | 1,881          | 190            | 262            | 154            | 144            |
| Kansas .....            | 759            | 812            | 361            | 745            | 69             | 317            |
| Kentucky .....          | 24,333         | 26,500         | 5,409          | 7,440          | 5,924          | 7,564          |
| Michigan .....          | 15,084         | 17,808         | 705            | 2,562          | 1,945          | 2,387          |
| Minnesota .....         | 4,338          | 12,255         | 179            | 185            | 42             | 45             |
| Missouri .....          | 2,185          | 3,118          | 614            | 561            | 224            | 282            |
| Nebraska .....          | 608            | 372            | 73             | 132            | 37             | 24             |
| North Dakota .....      | 294            | 449            | 41             | 24             | 0              | 5              |
| Ohio .....              | 47,498         | 39,709         | 9,973          | 10,917         | 3,684          | 4,300          |
| Oklahoma .....          | 941            | 878            | 1,616          | 4,004          | 219            | 386            |
| South Dakota .....      | 516            | 388            | 9              | 13             | 5              | 1              |
| Tennessee .....         | 23,642         | 27,983         | 9,127          | 7,037          | 1,425          | 860            |
| Wisconsin .....         | 2,019          | 1,802          | 252            | 288            | 113            | 234            |
| <b>Total .....</b>      | <b>152,920</b> | <b>167,571</b> | <b>33,738</b>  | <b>38,843</b>  | <b>18,316</b>  | <b>21,739</b>  |
| <b>PAD District 3</b>   |                |                |                |                |                |                |
| Alabama .....           | 98,719         | 34,829         | 9,669          | 6,220          | 6,435          | 2,949          |
| Arkansas .....          | 19,438         | 12,395         | 7,350          | 812            | 6,854          | 4,684          |
| Louisiana .....         | 8,814          | 13,829         | 84,328         | 15,021         | 27,976         | 20,369         |
| Mississippi .....       | 21,327         | 9,695          | 2,776          | 2,084          | 29,000         | 4,625          |
| New Mexico .....        | 8,717          | 4,331          | 23,751         | 6,121          | 4,538          | 18,693         |
| Texas .....             | 44,519         | 21,098         | 31,533         | 173,744        | 48,916         | 48,325         |
| <b>Total .....</b>      | <b>201,534</b> | <b>96,177</b>  | <b>159,407</b> | <b>204,002</b> | <b>123,719</b> | <b>99,645</b>  |
| <b>PAD District 4</b>   |                |                |                |                |                |                |
| Colorado .....          | 1,144          | 842            | 499            | 3,186          | 546            | 104            |
| Idaho .....             | 257            | 48             | 46             | 8              | 10             | 4              |
| Montana .....           | 50             | 20             | 1              | 2              | 0              | —              |
| Utah .....              | 223            | 108            | 170            | 83             | 460            | 19             |
| Wyoming .....           | 54             | 23             | 139            | 39             | 115            | 48             |
| <b>Total .....</b>      | <b>1,728</b>   | <b>1,041</b>   | <b>855</b>     | <b>3,318</b>   | <b>1,131</b>   | <b>173</b>     |
| <b>PAD District 5</b>   |                |                |                |                |                |                |
| Alaska .....            | 192            | 51             | 10,965         | 55             | 7              | 7              |
| Arizona .....           | 186            | 30             | 38             | 176            | 2,946          | 3,088          |
| California .....        | 5,873          | 7,450          | 5,102          | 2,852          | 1,567          | 1,484          |
| Hawaii .....            | 0              | 0              | 15             | 17             | 8              | 8              |
| Nevada .....            | 975            | 994            | 486            | 327            | 115            | 217            |
| Oregon .....            | 554            | 2,639          | 515            | 499            | 80             | 167            |
| Washington .....        | 3,432          | 3,756          | 50,530         | 44,871         | 819            | 369            |
| <b>Total .....</b>      | <b>11,212</b>  | <b>14,920</b>  | <b>67,651</b>  | <b>48,797</b>  | <b>5,542</b>   | <b>5,340</b>   |
| <b>U.S. Total .....</b> | <b>770,040</b> | <b>618,321</b> | <b>306,584</b> | <b>349,568</b> | <b>188,115</b> | <b>171,124</b> |



# ...By End Use

(Add 000 gal.)

**Special note:** Since 1985, the Energy Information Administration (EIA) has been publishing two sets of data in its annual report on fuel oil and kerosine sales. The original objective was to abandon one and retain the other. Because of statistical disparities, this switch-over has been delayed indefinitely. The data on these pages are called "sales" by the EIA but are compatible with prior NPN FACTBOOK summaries called "deliveries" in the past.

| Destination             | Farm          |               | All Other      |                | Total            |                  |
|-------------------------|---------------|---------------|----------------|----------------|------------------|------------------|
|                         | 1988          | 1989          | 1988           | 1989           | 1988             | 1989             |
| <b>PAD District 1</b>   |               |               |                |                |                  |                  |
| Connecticut .....       | 10            | 5             | 93             | 2,998          | 14,044           | 13,793           |
| Delaware .....          | 177           | 8             | 2              | 17             | 6,630            | 5,834            |
| Dist. of Col. ....      | —             | —             | 29             | —              | 281              | 1,204            |
| Florida .....           | 25            | 36            | 752            | 411            | 22,375           | 17,486           |
| Georgia .....           | 870           | 27            | 547            | 200            | 6,534            | 6,442            |
| Maine .....             | 365           | 559           | 365            | 259            | 19,385           | 19,408           |
| Maryland .....          | 168           | 851           | 601            | 92             | 29,596           | 20,643           |
| Massachusetts ..        | 5             | 43            | 133            | 375            | 8,118            | 8,041            |
| New Hampshire ..        | 27            | 26            | 46             | 223            | 9,541            | 11,030           |
| New Jersey .....        | 15            | 4             | 13,142         | 1,751          | 26,778           | 31,534           |
| New York .....          | 1,884         | 2,340         | 916            | 15,137         | 102,102          | 98,425           |
| North Carolina ...      | 2,617         | 873           | 2,847          | 439            | 93,171           | 69,181           |
| Pennsylvania .....      | 848           | 1,052         | 1,578          | 859            | 71,640           | 63,003           |
| Rhode Island .....      | 0             | 0             | 319            | 18             | 2,231            | 1,288            |
| South Carolina ....     | 462           | 605           | 811            | 697            | 28,782           | 29,256           |
| Vermont .....           | 730           | 414           | 37             | 35             | 8,831            | 7,431            |
| Virginia .....          | 1,114         | 733           | 739            | 526            | 59,138           | 55,225           |
| West Virginia .....     | 225           | 416           | 978            | 168            | 11,288           | 10,449           |
| <b>Total .....</b>      | <b>9,542</b>  | <b>7,992</b>  | <b>23,936</b>  | <b>24,205</b>  | <b>520,465</b>   | <b>469,673</b>   |
| <b>PAD District 2</b>   |               |               |                |                |                  |                  |
| Illinois .....          | 757           | 580           | 363            | 1,082          | 13,219           | 16,671           |
| Indiana .....           | 672           | 899           | 878            | 183            | 26,864           | 29,551           |
| Iowa .....              | 652           | 598           | 90             | 338            | 4,030            | 3,223            |
| Kansas .....            | 288           | 531           | 103            | 134            | 1,580            | 2,538            |
| Kentucky .....          | 1,065         | 942           | 131            | 420            | 36,862           | 42,866           |
| Michigan .....          | 180           | 320           | 11             | 411            | 17,905           | 23,487           |
| Minnesota .....         | 1,092         | 2,162         | 134            | 63             | 5,786            | 14,710           |
| Missouri .....          | 161           | 412           | 528            | 803            | 3,722            | 5,177            |
| Nebraska .....          | 318           | 451           | 1,830          | 12             | 2,865            | 990              |
| North Dakota .....      | 78            | 16            | 148            | 12             | 560              | 507              |
| Ohio .....              | 2,676         | 3,501         | 1,943          | 2,328          | 65,774           | 80,754           |
| Oklahoma .....          | 389           | 101           | 174            | 65             | 3,339            | 5,434            |
| South Dakota .....      | 182           | 214           | 36             | 35             | 729              | 652              |
| Tennessee .....         | 286           | 438           | 3,227          | 357            | 37,708           | 36,675           |
| Wisconsin .....         | 157           | 441           | 80             | 79             | 2,622            | 2,843            |
| <b>Total .....</b>      | <b>8,913</b>  | <b>11,606</b> | <b>9,676</b>   | <b>6,322</b>   | <b>223,565</b>   | <b>246,078</b>   |
| <b>PAD District 3</b>   |               |               |                |                |                  |                  |
| Alabama .....           | 1,967         | 272           | 7,644          | 4,201          | 124,434          | 48,472           |
| Arkansas .....          | 1,368         | 1,383         | 3,934          | 672            | 38,944           | 19,946           |
| Louisiana .....         | 841           | 3,589         | 74,895         | 19,230         | 196,855          | 72,038           |
| Mississippi .....       | 14,009        | 4,480         | 176            | 6,870          | 67,288           | 27,753           |
| New Mexico .....        | 389           | 424           | 1,331          | 653            | 38,726           | 30,221           |
| Texas .....             | 7,644         | 5,695         | 45,420         | 52,423         | 178,032          | 301,286          |
| <b>Total .....</b>      | <b>26,218</b> | <b>15,843</b> | <b>133,400</b> | <b>84,049</b>  | <b>644,279</b>   | <b>499,716</b>   |
| <b>PAD District 4</b>   |               |               |                |                |                  |                  |
| Colorado .....          | 815           | 301           | 11             | 159            | 3,014            | 4,591            |
| Idaho .....             | 22            | 11            | 4              | 2              | 338              | 73               |
| Montana .....           | 85            | 44            | 0              | 2              | 137              | 69               |
| Utah .....              | 31            | 11            | 14             | 5              | 898              | 225              |
| Wyoming .....           | 21            | 11            | 29             | 6              | 359              | 124              |
| <b>Total .....</b>      | <b>975</b>    | <b>378</b>    | <b>58</b>      | <b>174</b>     | <b>4,746</b>     | <b>5,082</b>     |
| <b>PAD District 5</b>   |               |               |                |                |                  |                  |
| Alaska .....            | —             | —             | 18             | 20             | 11,182           | 133              |
| Arizona .....           | 12            | 27            | 58             | 104            | 3,240            | 3,424            |
| California .....        | 155           | 823           | 403            | 644            | 13,100           | 13,253           |
| Hawaii .....            | 0             | 0             | —              | —              | 23               | 25               |
| Nevada .....            | 29            | 70            | 14             | 191            | 1,620            | 1,799            |
| Oregon .....            | 9             | 88            | 11             | 27             | 1,169            | 3,420            |
| Washington .....        | 137           | 81            | 7              | 15             | 54,926           | 49,093           |
| <b>Total .....</b>      | <b>342</b>    | <b>1,089</b>  | <b>511</b>     | <b>1,001</b>   | <b>85,260</b>    | <b>71,147</b>    |
| <b>U.S. Total .....</b> | <b>45,990</b> | <b>36,908</b> | <b>167,581</b> | <b>115,751</b> | <b>1,478,315</b> | <b>1,291,696</b> |

## Residual Fuel Oil Sales in 1988 and 1989...

(Add 000 gal.)

| Destination             | Commercial       |                  | Industrial       |                  | Oil Company    |                | Electric Utility |                  |
|-------------------------|------------------|------------------|------------------|------------------|----------------|----------------|------------------|------------------|
|                         | 1988             | 1989             | 1988             | 1989             | 1988           | 1989           | 1988             | 1989             |
| <b>PAD District 1</b>   |                  |                  |                  |                  |                |                |                  |                  |
| Connecticut .....       | 42,331           | 29,398           | 64,819           | 31,796           | 210            | 391            | 706,921          | 743,254          |
| Delaware .....          | 5,514            | 4,439            | 21,542           | 10,972           | 13,245         | 7,488          | 131,732          | 173,374          |
| Dist. of Col. ....      | 6,893            | 2,457            | —                | 5                | —              | —              | —                | —                |
| Florida .....           | 65,351           | 37,683           | 123,738          | 54,674           | 148            | 39             | 1,610,455        | 1,726,877        |
| Georgia .....           | 23,794           | 4,915            | 52,959           | 32,008           | 518            | 403            | 3,106            | 618              |
| Maine .....             | 58,354           | 36,344           | 154,450          | 90,196           | —              | —              | 184,248          | 219,634          |
| Maryland .....          | 22,317           | 24,545           | 30,198           | 17,520           | 2,699          | 1,182          | 214,869          | 404,651          |
| Massachusetts .....     | 106,355          | 73,270           | 113,447          | 64,904           | —              | —              | 1,219,964        | 1,103,079        |
| New Hampshire .....     | 15,150           | 9,074            | 28,217           | 11,670           | —              | —              | 199,724          | 215,811          |
| New Jersey .....        | 88,596           | 34,083           | 158,008          | 75,213           | 5,405          | 2,687          | 565,072          | 525,982          |
| New York .....          | 563,523          | 301,433          | 148,931          | 81,785           | 864            | 1,094          | 2,642,176        | 2,784,305        |
| North Carolina .....    | 8,758            | 4,300            | 166,570          | 86,686           | 1,531          | 866            | —                | —                |
| Pennsylvania .....      | 35,604           | 17,331           | 93,671           | 57,735           | 44,004         | 48,798         | 405,791          | 442,417          |
| Rhode Island .....      | 19,242           | 8,683            | 19,664           | 9,435            | —              | —              | 30,750           | 22,506           |
| South Carolina .....    | 1,450            | 709              | 76,094           | 37,774           | 86             | 201            | —                | —                |
| Vermont .....           | 1,880            | 1,586            | 5,496            | 1,937            | —              | —              | —                | —                |
| Virginia .....          | 12,529           | 4,001            | 88,195           | 54,832           | 548            | 435            | 133,724          | 232,962          |
| West Virginia .....     | 5,364            | 1,673            | 12,837           | 18,375           | 1,395          | —              | —                | —                |
| <b>Total .....</b>      | <b>1,083,005</b> | <b>595,924</b>   | <b>1,358,836</b> | <b>737,517</b>   | <b>70,653</b>  | <b>63,584</b>  | <b>8,048,532</b> | <b>8,601,470</b> |
| <b>PAD District 2</b>   |                  |                  |                  |                  |                |                |                  |                  |
| Illinois .....          | 26,349           | 12,623           | 80,448           | 63,350           | 54,890         | 59,760         | 88,120           | 71,844           |
| Indiana .....           | 10,958           | 19,484           | 66,328           | 96,479           | 58,231         | 52,259         | —                | —                |
| Iowa .....              | 898              | 1,825            | 10,837           | 8,305            | —              | —              | —                | —                |
| Kansas .....            | 34               | 550              | 22,900           | 14,277           | 8,471          | 2,612          | 857              | —                |
| Kentucky .....          | 1,755            | 14               | 14,496           | 17,917           | 9,641          | 8,237          | —                | —                |
| Michigan .....          | 8,760            | 4,982            | 87,920           | 88,165           | 10,087         | 9,844          | 84,750           | 87,400           |
| Minnesota .....         | 13,494           | 14,829           | 32,289           | 30,950           | 11,588         | 12,715         | 18               | 7                |
| Missouri .....          | 4,587            | 1,924            | 24,181           | 23,218           | —              | —              | 10,100           | 14,460           |
| Nebraska .....          | 597              | 2,397            | 14,655           | 14,973           | —              | —              | 4,395            | 2,531            |
| North Dakota .....      | 2,102            | 1,515            | 5,864            | 5,267            | 7,947          | 9,313          | 149              | 243              |
| Ohio .....              | 3,590            | 983              | 95,190           | 91,119           | 11,188         | 7,149          | 18,924           | 20,933           |
| Oklahoma .....          | 261              | 2,513            | 29,625           | 18,735           | —              | —              | —                | —                |
| South Dakota .....      | 1,009            | 1,245            | 2,378            | 2,407            | —              | —              | —                | —                |
| Tennessee .....         | 3,461            | 2,911            | 15,966           | 21,824           | 265            | 262            | —                | —                |
| Wisconsin .....         | 11,278           | 16,498           | 32,297           | 35,382           | 6,082          | 4,904          | —                | —                |
| <b>Total .....</b>      | <b>89,133</b>    | <b>84,293</b>    | <b>515,374</b>   | <b>532,368</b>   | <b>178,390</b> | <b>167,055</b> | <b>207,313</b>   | <b>197,418</b>   |
| <b>PAD District 3</b>   |                  |                  |                  |                  |                |                |                  |                  |
| Alabama .....           | 239,051          | 289,682          | 228,999          | 199,364          | 7,646          | —              | —                | —                |
| Arkansas .....          | —                | —                | 74,254           | 137,335          | —              | —              | 5,737            | 5,726            |
| Louisiana .....         | 72,608           | 146,525          | 953,705          | 822,444          | 5,101          | 292            | 9,319            | 8,524            |
| Mississippi .....       | 5,470            | 7,563            | 227,263          | 621,730          | —              | —              | 46,542           | 51,407           |
| New Mexico .....        | —                | —                | 26,452           | 85,444           | —              | —              | 1,430            | 1,775            |
| Texas .....             | 183,691          | 172,155          | 198,367          | 284,579          | 6,670          | 8,601          | 8,132            | 7,988            |
| <b>Total .....</b>      | <b>500,820</b>   | <b>615,925</b>   | <b>1,709,021</b> | <b>2,150,896</b> | <b>19,417</b>  | <b>8,893</b>   | <b>71,160</b>    | <b>75,420</b>    |
| <b>PAD District 4</b>   |                  |                  |                  |                  |                |                |                  |                  |
| Colorado .....          | —                | 1,880            | 1,001            | 4,581            | —              | —              | 51               | 3                |
| Idaho .....             | 1,282            | 8,369            | 9,400            | 6,042            | —              | —              | —                | —                |
| Montana .....           | 1,659            | 4,080            | 5,459            | 434              | 34,814         | 51,763         | —                | —                |
| Utah .....              | 8,935            | 4,312            | 24,300           | 38,254           | 21,436         | 37,329         | —                | —                |
| Wyoming .....           | 22,492           | 170              | 11,700           | 2,815            | 14,367         | 6,447          | 97               | 36               |
| <b>Total .....</b>      | <b>34,368</b>    | <b>18,811</b>    | <b>51,360</b>    | <b>52,126</b>    | <b>70,617</b>  | <b>95,539</b>  | <b>148</b>       | <b>39</b>        |
| <b>PAD District 5</b>   |                  |                  |                  |                  |                |                |                  |                  |
| Alaska .....            | 5,064            | —                | —                | —                | —              | —              | 139              | —                |
| Arizona .....           | 15               | —                | 512              | 299              | —              | —              | 1,110            | 3,393            |
| California .....        | 13,463           | 38,743           | 70,687           | 118,003          | 72,778         | 21,854         | 673,885          | 372,937          |
| Hawaii .....            | 53,758           | 165,988          | 2,234            | 6,223            | 14,306         | 33,954         | 500,191          | 522,447          |
| Nevada .....            | 90               | 90               | 1,679            | 2,971            | 344            | 331            | 38,401           | 24,844           |
| Oregon .....            | 5,417            | 13,617           | 25,357           | 18,666           | 902            | 139            | —                | —                |
| Washington .....        | 3,596            | 3,637            | 99,510           | 93,598           | 5,588          | 11,843         | —                | —                |
| <b>Total .....</b>      | <b>81,403</b>    | <b>222,075</b>   | <b>199,979</b>   | <b>239,760</b>   | <b>94,218</b>  | <b>68,121</b>  | <b>1,213,726</b> | <b>923,621</b>   |
| <b>U.S. Total .....</b> | <b>1,788,729</b> | <b>1,537,028</b> | <b>3,855,070</b> | <b>3,712,667</b> | <b>433,295</b> | <b>403,192</b> | <b>9,540,879</b> | <b>9,797,968</b> |

# ...By End Use

(Add 000 gal.)

**Special note:** Since 1985, the Energy Information Administration (EIA) has been publishing two sets of data in its annual report on fuel oil and kerosine sales. The original objective was to abandon one and retain the other. Because of statistical disparities, this switch-over has been delayed indefinitely. The data on these pages are called "sales" by the EIA but are compatible with prior NPN FACTBOOK summaries called "deliveries" in the past.

| Destination             | Railroad  |            | Vessel Bunkering |                  | Military       |                | All Other      |               | Total             |                   |
|-------------------------|-----------|------------|------------------|------------------|----------------|----------------|----------------|---------------|-------------------|-------------------|
|                         | 1988      | 1989       | 1988             | 1989             | 1988           | 1989           | 1988           | 1989          | 1988              | 1989              |
| <b>PAD District 1</b>   |           |            |                  |                  |                |                |                |               |                   |                   |
| Connecticut .....       | —         | —          | 876              | 236              | 4,924          | 3,097          | —              | —             | 820,082           | 814,172           |
| Delaware .....          | —         | —          | 25,630           | 28,740           | —              | —              | —              | —             | 197,663           | 225,013           |
| Dist. of Col. ....      | —         | —          | —                | —                | 499            | 2,115          | —              | —             | 7,392             | 4,578             |
| Florida .....           | —         | —          | 235,237          | 257,318          | 9,476          | 7,460          | 173            | —             | 2,044,577         | 2,084,050         |
| Georgia .....           | —         | —          | 12,092           | 20,346           | 1,783          | 1,947          | —              | —             | 94,252            | 60,236            |
| Maine .....             | —         | —          | 12,270           | 3,962            | —              | 4,085          | —              | —             | 409,322           | 354,221           |
| Maryland .....          | —         | —          | 62,820           | 64,120           | 23,654         | 23,688         | —              | —             | 356,558           | 535,705           |
| Massachusetts .....     | —         | —          | 16,311           | 29,557           | 5,785          | 14,388         | —              | —             | 1,461,862         | 1,285,197         |
| New Hampshire ..        | —         | —          | 445              | —                | 6,363          | 1,049          | —              | —             | 249,899           | 237,604           |
| New Jersey .....        | —         | —          | 220,204          | 288,946          | 6,920          | 2,892          | 60             | —             | 1,044,265         | 929,804           |
| New York .....          | —         | —          | 81,687           | 11,822           | 13,303         | 8,815          | 2,884          | —             | 3,453,368         | 3,189,253         |
| North Carolina ..       | —         | —          | 5,898            | 19,099           | 10,411         | 4,214          | 187            | 84            | 193,355           | 115,249           |
| Pennsylvania .....      | —         | —          | 158,577          | 131,091          | 3,078          | 3,408          | —              | —             | 740,726           | 700,780           |
| Rhode Island .....      | —         | —          | 4,501            | 464              | 6,758          | 2,850          | —              | —             | 80,914            | 43,937            |
| South Carolina .....    | —         | —          | 19,391           | 17,892           | 5,360          | 6,343          | —              | —             | 102,381           | 62,919            |
| Vermont .....           | —         | —          | —                | —                | —              | 354            | —              | —             | 7,376             | 3,876             |
| Virginia .....          | —         | —          | 77,609           | 81,889           | 7,149          | 4,149          | —              | —             | 319,753           | 378,267           |
| West Virginia .....     | —         | —          | —                | —                | —              | —              | —              | —             | 19,596            | 20,048            |
| <b>Total .....</b>      | <b>—</b>  | <b>—</b>   | <b>933,548</b>   | <b>955,482</b>   | <b>105,463</b> | <b>90,854</b>  | <b>3,304</b>   | <b>84</b>     | <b>11,603,341</b> | <b>11,044,909</b> |
| <b>PAD District 2</b>   |           |            |                  |                  |                |                |                |               |                   |                   |
| Illinois .....          | —         | —          | 15,351           | 2,671            | 155            | —              | 40             | —             | 265,353           | 210,249           |
| Indiana .....           | —         | —          | 6,831            | 9,908            | —              | —              | —              | —             | 142,348           | 178,130           |
| Iowa .....              | —         | 1          | —                | —                | —              | 10             | —              | —             | 11,735            | 10,140            |
| Kansas .....            | —         | —          | —                | —                | —              | —              | —              | —             | 32,263            | 17,439            |
| Kentucky .....          | —         | —          | —                | —                | —              | —              | 74             | —             | 25,892            | 26,168            |
| Michigan .....          | —         | —          | 1,315            | 5,397            | —              | —              | 190            | 153           | 192,832           | 195,862           |
| Minnesota .....         | 11        | —          | 306              | 73               | —              | —              | —              | —             | 57,895            | 58,726            |
| Missouri .....          | 22        | —          | —                | —                | 4,218          | 3,709          | 16             | 19            | 43,107            | 43,311            |
| Nebraska .....          | —         | —          | —                | —                | —              | —              | —              | 303           | 19,664            | 19,920            |
| North Dakota .....      | —         | —          | —                | —                | —              | —              | —              | —             | 16,062            | 16,640            |
| Ohio .....              | —         | —          | 524              | 451              | —              | —              | —              | —             | 129,416           | 120,636           |
| Oklahoma .....          | —         | —          | —                | —                | —              | —              | —              | —             | 29,886            | 21,247            |
| South Dakota .....      | —         | —          | —                | —                | —              | 2              | —              | —             | 3,387             | 3,654             |
| Tennessee .....         | —         | —          | 56               | 22               | 548            | 571            | —              | —             | 20,306            | 25,590            |
| Wisconsin .....         | —         | —          | 200              | 187              | —              | —              | —              | —             | 49,857            | 56,971            |
| <b>Total .....</b>      | <b>33</b> | <b>1</b>   | <b>24,593</b>    | <b>18,709</b>    | <b>4,921</b>   | <b>4,292</b>   | <b>246</b>     | <b>549</b>    | <b>1,040,003</b>  | <b>1,004,683</b>  |
| <b>PAD District 3</b>   |           |            |                  |                  |                |                |                |               |                   |                   |
| Alabama .....           | —         | —          | 74,707           | 97,958           | 28             | 1,229          | —              | —             | 550,331           | 588,234           |
| Arkansas .....          | —         | —          | —                | —                | —              | —              | —              | —             | 79,991            | 143,001           |
| Louisiana .....         | —         | —          | 847,838          | 845,590          | 4,264          | —              | 12,636         | —             | 1,905,531         | 1,823,375         |
| Mississippi .....       | —         | —          | 64,215           | 42,127           | —              | —              | —              | —             | 343,492           | 722,827           |
| New Mexico .....        | —         | —          | —                | —                | —              | —              | —              | —             | 27,882            | 87,219            |
| Texas .....             | —         | —          | 807,866          | 911,532          | —              | —              | 146,745        | —             | 1,351,488         | 1,384,854         |
| <b>Total .....</b>      | <b>—</b>  | <b>—</b>   | <b>1,794,626</b> | <b>1,897,207</b> | <b>4,292</b>   | <b>1,229</b>   | <b>159,381</b> | <b>—</b>      | <b>4,258,715</b>  | <b>4,749,570</b>  |
| <b>PAD District 4</b>   |           |            |                  |                  |                |                |                |               |                   |                   |
| Colorado .....          | —         | —          | —                | —                | —              | —              | —              | —             | 1,051             | 6,464             |
| Idaho .....             | —         | —          | —                | —                | —              | —              | —              | —             | 10,682            | 14,411            |
| Montana .....           | —         | —          | —                | —                | —              | —              | 1,331          | —             | 41,932            | 57,608            |
| Utah .....              | —         | 58         | —                | —                | —              | —              | —              | —             | 54,670            | 79,952            |
| Wyoming .....           | —         | 72         | —                | —                | —              | —              | 172            | 193           | 48,829            | 9,732             |
| <b>Total .....</b>      | <b>—</b>  | <b>130</b> | <b>—</b>         | <b>—</b>         | <b>—</b>       | <b>—</b>       | <b>172</b>     | <b>1,524</b>  | <b>157,164</b>    | <b>168,167</b>    |
| <b>PAD District 5</b>   |           |            |                  |                  |                |                |                |               |                   |                   |
| Alaska .....            | —         | —          | 5,624            | 4,313            | —              | —              | —              | —             | 10,828            | 4,313             |
| Arizona .....           | —         | —          | —                | —                | —              | —              | —              | —             | 1,636             | 3,692             |
| California .....        | —         | —          | 1,878,459        | 1,791,584        | 7,162          | —              | —              | —             | 2,716,435         | 2,343,121         |
| Hawaii .....            | —         | —          | 63,078           | 78,996           | 3,191          | 3,647          | 12,083         | 34,069        | 649,142           | 845,324           |
| Nevada .....            | —         | —          | —                | —                | —              | —              | —              | —             | 40,513            | 28,236            |
| Oregon .....            | —         | 21         | 169,417          | 173,342          | 236            | —              | 13             | 72            | 201,342           | 205,857           |
| Washington .....        | —         | —          | 379,637          | 490,630          | 12,021         | 5,235          | 78             | —             | 500,430           | 604,963           |
| <b>Total .....</b>      | <b>—</b>  | <b>21</b>  | <b>2,496,215</b> | <b>2,538,865</b> | <b>22,610</b>  | <b>8,882</b>   | <b>12,174</b>  | <b>34,141</b> | <b>4,120,326</b>  | <b>4,035,506</b>  |
| <b>U.S. Total .....</b> | <b>33</b> | <b>152</b> | <b>5,248,982</b> | <b>5,410,263</b> | <b>137,286</b> | <b>105,257</b> | <b>175,277</b> | <b>36,298</b> | <b>21,179,549</b> | <b>21,002,835</b> |

## Distillate Deliveries by Annual Uses

(Add 000 bbl.)

| Year    | Residential | Commercial | Industrial | Farm   | Oil Company | Electric Utilities | On-Highway Diesel | Other   | Total     |
|---------|-------------|------------|------------|--------|-------------|--------------------|-------------------|---------|-----------|
| 1989    | 178,598     | 91,875     | 61,078     | 76,117 | 20,142      | 25,688             | 503,136           | 195,610 | 1,152,225 |
| 1988    | 182,430     | 98,454     | 63,325     | 81,445 | 20,765      | 19,050             | 520,488           | 157,244 | 1,142,511 |
| 1987    | 176,819     | 101,890    | 69,472     | 77,190 | 20,994      | 15,383             | 473,930           | 150,741 | 1,086,419 |
| 1986    | 173,686     | 102,217    | 63,907     | 80,477 | 17,857      | 14,628             | 467,280           | 143,688 | 1,063,740 |
| 1985    | 171,736     | 107,481    | 61,730     | 78,841 | 20,869      | 12,246             | 411,420           | 99,984  | 1,046,827 |
| 1984(a) | 164,529     | 116,729    | 56,113     | 70,819 | 21,623      | 16,405             | 439,786           | 139,173 | 1,041,217 |
| 1983(a) | 159,481     | 112,392    | 54,030     | 67,582 | 21,510      | 11,744             | 408,594           | 131,142 | 981,926   |
| 1982    | 180,760     | 75,669     | 71,340     | 68,453 | 29,482      | 12,134             | 375,124           | 164,253 | 974,864   |
| 1981    | 197,400     | 78,663     | 80,216     | 69,665 | 29,185      | 18,192             | 378,853           | 180,302 | 1,032,476 |

(a) In 1984, Energy Information Administration revised its sampling procedures and adjusted some categories to reflect market volumes. Thus the 1984 and 1983 data may not be truly comparable to 1982 and the preceding years. Also, see special caveat at the top of the preceding page.

Source: Energy Information Administration, Fuel Oil and Kerosine Sales 1989, published January 1991 as a stand-alone publication.

## Residual Deliveries by Annual Uses

(Add 000 bbl.)

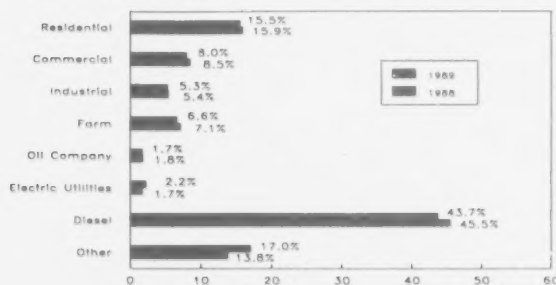
| Year    | Vessel Bunkering | Electric Utilities | Railroads | Oil Companies | Industrial | Commercial | Military | Other  | Total   |
|---------|------------------|--------------------|-----------|---------------|------------|------------|----------|--------|---------|
| 1989    | 128,816          | 233,285            | 7         | 9,560         | 88,397     | 36,569     | 2,506    | 864    | 500,067 |
| 1988    | 124,976          | 227,164            | 1         | 10,317        | 91,787     | 42,589     | 3,269    | 4,173  | 504,276 |
| 1987    | 125,221          | 181,712            | 7         | 11,967        | 90,723     | 42,013     | 4,549    | 5,316  | 481,504 |
| 1986    | 125,889          | 215,276            | 14        | 18,239        | 106,962    | 35,595     | 4,308    | 7,434  | 517,717 |
| 1985    | 130,323          | 147,381            | 147       | 18,477        | 95,509     | 31,592     | 4,593    | 10,962 | 438,840 |
| 1984(a) | 135,408          | 186,318            | 43        | 27,680        | 94,375     | 33,777     | 5,291    | 18,307 | 501,199 |
| 1983(a) | 136,290          | 204,238            | 47        | 28,604        | 93,624     | 35,979     | 5,411    | 14,412 | 518,604 |
| 1982    | 152,586          | 227,419            | 170       | 45,319        | 122,619    | 65,781     | 7,829    | 4,784  | 626,510 |
| 1981    | 188,632          | 325,486            | 178       | 51,870        | 117,024    | 67,035     | 7,008    | 4,795  | 762,030 |

(a) See Footnote (a) in distillate summaries above.

Source: Energy Information Administration, Fuel Oil and Kerosine Sales 1989, published January 1991 as a stand-alone publication.

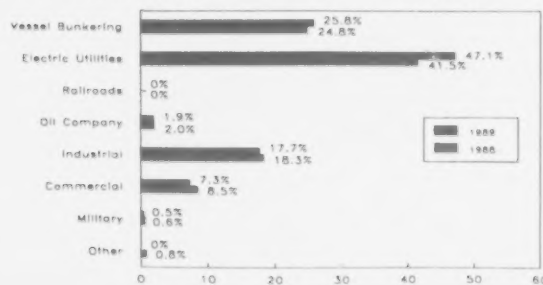
## Distillate Deliveries by Use as Percent of Total

1989 = 1,152,225,000 bbl. 1988 = 1,142,511,000 bbl.

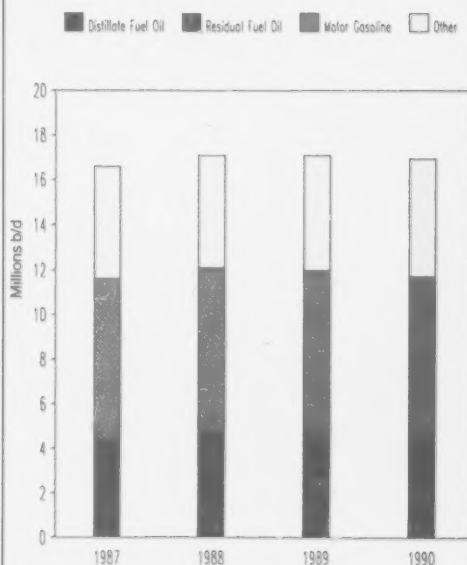


## Residual Deliveries by Use as Percent of Total

1989 = 500,067,000 bbl. 1988 = 504,276,000 bbl.



## Fuel Oil Demand vs. Other Products





# Oil Heat Industry Profiles — 1990

## Sources of Business Income

(% of total business income)

| Region             | FUEL OIL |           |         |           | GASOLINE |           |         |           |
|--------------------|----------|-----------|---------|-----------|----------|-----------|---------|-----------|
|                    | Retail   |           | Bulk    |           | Retail   |           | Bulk    |           |
|                    | Primary  | Secondary | Primary | Secondary | Primary  | Secondary | Primary | Secondary |
| New England .....  | 90.0     | 2.5       | 15.0    | 15.0      | 27.5     | 5.0       | 5.0     | 12.5      |
| Mid-Atlantic ..... | 81.8     | 4.5       | 11.4    | 18.2      | 27.3     | 11.4      | 11.4    | 13.6      |
| South .....        | 76.3     | 15.8      | 15.8    | 26.3      | 23.7     | 26.3      | 13.2    | 13.2      |
| Midwest .....      | 69.8     | 11.6      | 32.6    | 18.6      | 51.2     | 18.6      | 25.6    | 30.2      |
| West .....         | 81.5     | 11.1      | 25.9    | 25.9      | 37.0     | 14.8      | 22.2    | 18.5      |
| All Sections ..... | 79.9     | 9.1       | 20.1    | 20.8      | 33.3     | 15.2      | 15.5    | 17.6      |

## Average Drop In Gallons

| Region             | 275-gal.<br>Tanks | 550-gal.<br>Tanks |
|--------------------|-------------------|-------------------|
| New England .....  | 174.0             | 347.3             |
| Mid-Atlantic ..... | 182.6             | 363.2             |
| South .....        | 174.6             | 344.4             |
| Midwest .....      | 173.3             | 374.4             |
| West .....         | 178.8             | 362.4             |
| All Sections ..... | 176.7             | 358.3             |

## Average Size of Business

| Region             | Home<br>Fuel Oil<br>Accts | No. of<br>C/I<br>Accts | Gals. of<br>Distillate | Gals. of<br>Residual | Gals. of<br>Gasoline | No. of<br>Emple |
|--------------------|---------------------------|------------------------|------------------------|----------------------|----------------------|-----------------|
| New England .....  | 2,181                     | 244                    | 2,710,714              | 770,000              | 2,500,000            | 13.8            |
| Mid-Atlantic ..... | 2,944                     | 339                    | 3,267,633              | 581,250              | 2,068,077            | 16.8            |
| South .....        | 1,897                     | 189                    | 857,492                | 169,812              | 1,599,167            | 7.2             |
| Midwest .....      | 834                       | 70                     | 1,287,871              | 493,182              | 1,334,069            | 11.3            |
| West .....         | 2,261                     | 196                    | 2,042,500              | I.D.                 | 1,001,154            | 12.0            |
| All Sections ..... | 2,023                     | 208                    | 2,033,242              | 503,561              | 1,700,493            | 12.2            |

I.D. - Insufficient Data

## Retail Gasoline Outlets and Volume

| Region             | Avg.<br>No. | Less Than<br>50,000* | 50,000<br>100,000* | 100,000 +* |
|--------------------|-------------|----------------------|--------------------|------------|
| New England .....  | 4.0         | 37.5                 | 60.5               | 2.0        |
| Mid-Atlantic ..... | 4.7         | 47.1                 | 23.5               | —          |
| South .....        | 9.4         | 35.7                 | 35.7               | 28.6       |
| Midwest .....      | 2.8         | 55.0                 | 35.0               | 10.0       |
| West .....         | 2.6         | 55.6                 | 33.3               | 11.1       |
| All Sections ..... | 4.8         | 46.2                 | 37.6               | 10.3       |

\* Percent reporting such volume in gals. per month.

## The Service Department

| Region             | %<br>Have<br>Service<br>Department | Avg<br>No. Calls<br>per Year | Value of<br>Parts<br>Inventory | %<br>Service<br>Dept<br>Profitable | No. of<br>Techs |
|--------------------|------------------------------------|------------------------------|--------------------------------|------------------------------------|-----------------|
| New England .....  | 85.0                               | 3,282                        | \$47,000                       | 52.9                               | 5.9             |
| Mid-Atlantic ..... | 61.9                               | 1,642                        | 67,500                         | 48.1                               | 8.6             |
| South .....        | 39.5                               | 1,038                        | 29,500                         | 46.7                               | 2.8             |
| Midwest .....      | 41.9                               | 800                          | 22,400                         | 55.6                               | 2.4             |
| West .....         | 59.3                               | 1,474                        | 29,800                         | 43.8                               | 4.9             |
| All Sections ..... | 57.5                               | 1,647                        | \$39,200                       | 49.4                               | 4.9             |

## The Gas Threat

| Region             | %<br>Saying Gas<br>a Major<br>Threat | %<br>Losing<br>Customers |
|--------------------|--------------------------------------|--------------------------|
| New England .....  | 55.0                                 | 80.0                     |
| Mid-Atlantic ..... | 69.0                                 | 93.1                     |
| South .....        | 15.8                                 | 34.2                     |
| Midwest .....      | 81.3                                 | 93.8                     |
| West .....         | 48.1                                 | 55.6                     |
| All Sections ..... | 53.8                                 | 71.3                     |

| Region             | % Taking<br>Steps to<br>Combat | % Making<br>Gas<br>Convera |
|--------------------|--------------------------------|----------------------------|
| New England .....  | 77.3                           | 27.3                       |
| Mid-Atlantic ..... | 48.3                           | 24.1                       |
| South .....        | 15.8                           | 7.9                        |
| Midwest .....      | 68.8                           | 43.8                       |
| West .....         | 40.7                           | 18.5                       |
| All Sections ..... | 50.2                           | 24.3                       |

| Region             | Average Number<br>Lost |
|--------------------|------------------------|
| New-England .....  | 17.7                   |
| Mid-Atlantic ..... | 39.9                   |
| South .....        | 16.1                   |
| Midwest .....      | 23.2                   |
| West .....         | 39.4                   |
| All Sections ..... | 27.3                   |

### Computer Applications (% of marketers using EDP for listed operations)

| Application                 | New England | Mid-Atlantic | South | Mid-West | West | All Sections |
|-----------------------------|-------------|--------------|-------|----------|------|--------------|
| Accounts Receivable/Billing | 75.0        | 90.6         | 94.7  | 92.9     | 95.2 | 89.7         |
| General Ledger              | 67.5        | 75.8         | 84.2  | 78.6     | 81.0 | 77.4         |
| Accounts Payable            | 65.0        | 75.8         | 78.9  | 71.4     | 66.7 | 71.6         |
| Delivery Schedule           | 67.5        | 71.9         | 36.8  | 25.0     | 52.4 | 50.7         |
| Inventory Recon             | 42.5        | 46.9         | 47.4  | 64.3     | 38.1 | 47.8         |
| Excise Tax                  | 50.0        | 50.0         | 47.4  | 50.0     | 47.6 | 49.0         |
| Word Processing             | 60.0        | 59.4         | 36.8  | 46.4     | 38.1 | 48.1         |
| Payroll                     | 40.0        | 56.3         | 52.6  | 60.7     | 52.4 | 52.4         |
| Fixed Assets                | 42.5        | 43.8         | 36.8  | 32.1     | 28.6 | 36.8         |
| Pricing Analysis            | 15.0        | 25.0         | 21.1  | 14.3     | 14.3 | 17.9         |
| Supplier Costs              | 12.5        | 34.4         | 10.5  | 14.3     | 9.5  | 16.2         |
| Oil Price Info              | 15.0        | 21.9         | 21.1  | 10.7     | 19.0 | 17.5         |
| Comm w/Stations             | 2.5         | —            | 15.8  | 17.9     | 19.0 | 11.0         |

### Trucks Per Marketer

| Region             | Average No.     |          | Average Size (gal.) |          | Opt. Size Preferred |
|--------------------|-----------------|----------|---------------------|----------|---------------------|
|                    | Delivery Trucks | Trailers | Largest             | Smallest |                     |
| New England ....   | 6.2             | 1.7      | 3,227               | 2,349    | 3,152               |
| Mid-Atlantic ..... | 6.0             | 1.6      | 3,128               | 2,477    | 2,968               |
| South .....        | 4.7             | 0.7      | 2,312               | 1,706    | 2,119               |
| Midwest .....      | 3.0             | 1.3      | 2,314               | 1,943    | 2,332               |
| West .....         | 4.5             | 2.1      | 2,896               | 1,915    | 2,645               |
| All Sections ..... | 4.9             | 1.5      | 2,775               | 2,078    | 2,643               |

### Average Age of Trucks

| Region       | Year of Oldest | Year of Newest |
|--------------|----------------|----------------|
| New England  | 1975.8         | 1981.3         |
| Mid-Atlantic | 1974.9         | 1985.1         |
| South        | 1975.1         | 1983.8         |
| Midwest      | 1974.9         | 1981.5         |
| West         | 1971.6         | 1983.3         |
| All Sections | 1974.5         | 1983.0         |

### Engines by Type

(% of readers)

| Region             | Diesel | USE      |      | PREFER |          |
|--------------------|--------|----------|------|--------|----------|
|                    |        | Gasoline | Both | Diesel | Gasoline |
| New England ....   | 55.3   | 2.6      | 42.1 | 89.5   | -        |
| Mid-Atlantic ..... | 42.9   | 31.0     | 26.2 | 59.5   | 16.7     |
| South .....        | 18.9   | 45.9     | 35.1 | 54.0   | 27.0     |
| Midwest .....      | 28.6   | 31.4     | 40.0 | 71.4   | 22.9     |
| West .....         | 26.9   | 26.9     | 46.2 | 65.4   | 19.2     |
| All Sections ..... | 34.5   | 27.6     | 37.9 | 68.0   | 17.2     |

### Truck Tanks by Type

(% of readers)

| Region             | Steel | USE  |      | PREFER |      |
|--------------------|-------|------|------|--------|------|
|                    |       | Alum | Both | Steel  | Alum |
| New England ....   | 13.2  | 39.5 | 42.1 | 7.9    | 73.7 |
| Mid-Atlantic ..... | 29.7  | 32.4 | 37.8 | 24.3   | 56.8 |
| South .....        | 54.3  | 25.7 | 20.0 | 22.9   | 48.6 |
| Midwest .....      | 65.6  | 15.6 | 18.8 | 32.5   | 34.4 |
| West .....         | 36.0  | 16.0 | 48.0 | 28.0   | 68.0 |
| All Sections ..... | 39.8  | 25.8 | 33.3 | 23.1   | 56.3 |

### Percent Buying This Year

| Region       | New Truck | New Tank |
|--------------|-----------|----------|
| New England  | 34.2      | 15.8     |
| Mid-Atlantic | 29.5      | 18.2     |
| South        | 28.9      | 10.5     |
| Midwest      | 26.8      | 14.6     |
| West         | 25.9      | 12.0     |
| All Sections | 29.1      | 14.2     |

### Trends in Equipment Sales Past 12 Months

(% of dealers reporting)

| Region       | Residential Up | C/I Up |
|--------------|----------------|--------|
| New England  | 30.6           | 13.9   |
| Mid-Atlantic | 24.1           | 20.7   |
| South        | 10.5           | 7.9    |
| Midwest      | 20.0           | 20.0   |
| West         | 29.6           | 14.8   |
| All Sections | 23.0           | 15.5   |

# Industry Profiles – 1990 (Continued)

| Dealers Operating Bulk Plants (in %) |                  |                                    |
|--------------------------------------|------------------|------------------------------------|
| Region                               | With Bulk Plants | Bulk Plants Storing Other Products |
| New England                          | 51.3             | 75.0                               |
| Mid-Atlantic                         | 52.3             | 87.0                               |
| South                                | 73.7             | 53.6                               |
| Midwest                              | 76.7             | 90.9                               |
| West                                 | 77.8             | 85.7                               |
| All Sections                         | 66.4             | 78.4                               |

| Dealers Trading on the Oil Futures Market |            |
|-------------------------------------------|------------|
| Region                                    | Percentage |
| New England                               | 32.4       |
| Mid-Atlantic                              | 13.6       |
| South                                     | 5.2        |
| Midwest                                   | 4.7        |
| West                                      | 3.7        |
| All Sections                              | 11.9       |

| Dealers Using Additives (in %) |               |                     |
|--------------------------------|---------------|---------------------|
| Region                         | Use Additives | Blend at Bulk Plant |
| New England                    | 46.2          | 27.8                |
| Mid-Atlantic                   | 38.6          | 35.3                |
| South                          | 46.4          | 15.4                |
| Midwest                        | 53.5          | 56.5                |
| West                           | 37.0          | 10.0                |
| All Sections                   | 44.3          | 29.0                |

## Annual Heating Oil Sales by Types of Customers

(% of total customers served)

| Region       | Private Homes | Apartments | Education | Hospitals | Commercial | Industrial |
|--------------|---------------|------------|-----------|-----------|------------|------------|
| New England  | 80.8          | 4.0        | 1.7       | 2.4       | 7.9        | 2.2        |
| Mid-Atlantic | 77.9          | 4.4        | 0.8       | 0.5       | 13.9       | 3.2        |
| South        | 80.6          | 2.9        | 0.9       | 0.1       | 12.2       | 6.3        |
| Midwest      | 86.6          | 1.4        | 1.4       | 0.6       | 6.4        | 2.4        |
| West         | 77.0          | 3.2        | 0.6       | 6.5       | 11.2       | 1.5        |
| All Sections | 80.6          | 3.2        | 1.1       | 2.0       | 10.3       | 3.1        |

| Dealers Using Additives (in %) |                 |                      |
|--------------------------------|-----------------|----------------------|
| Region                         | Blend on Trucks | Blend in Cust. Tanks |
| New England                    | 33.3            | 38.9                 |
| Mid-Atlantic                   | 29.4            | 58.8                 |
| South                          | 30.8            | 69.2                 |
| Midwest                        | 69.6            | 52.2                 |
| West                           | 30.0            | 80.0                 |
| All Sections                   | 38.6            | 59.8                 |

## Percent of Fuel Oil Dealers Who Sell, Install and/or Service Selected HVAC Equipment

### RESIDENTIAL

| Region       | Oil Burners | Gas Burners | Domestic Hot Water | Boilers | Hydronic Systems | Unitary Air Conditioning | Electric Resistance | Insulation | Solar |
|--------------|-------------|-------------|--------------------|---------|------------------|--------------------------|---------------------|------------|-------|
| New England  | 100         | 47.2        | 91.7               | 58.3    | 52.8             | 19.4                     | *                   | 19.4       | 13.9  |
| Mid-Atlantic | 93.1        | 41.4        | 86.2               | 86.2    | 62.1             | 34.5                     | 6.9                 | 10.3       | 6.9   |
| South        | 39.5        | 15.8        | 21.1               | 18.4    | 10.5             | 10.5                     | 2.6                 | 2.6        | *     |
| Midwest      | 34.9        | 20.9        | 18.6               | 25.6    | 7.0              | 14.0                     | 2.3                 | *          | 2.3   |
| West         | 51.9        | 18.5        | 33.3               | 25.9    | 11.1             | 7.4                      | 3.7                 | *          | 7.4   |
| All Sections | 63.9        | 28.8        | 50.2               | 42.9    | 28.7             | 17.2                     | 3.1                 | 6.5        | 6.1   |

### COMMERCIAL

| Region       | Oil Burners | Gas Burners | Domestic Hot Water | Boilers | Hydronic Systems | Unitary Air Conditioning | Electric Resistance | Insulation | Solar |
|--------------|-------------|-------------|--------------------|---------|------------------|--------------------------|---------------------|------------|-------|
| New England  | 69.4        | 8.3         | 55.6               | 55.6    | 36.1             | 13.9                     | 2.8                 | 5.6        | 5.6   |
| Mid-Atlantic | 72.4        | 27.6        | 55.2               | 65.5    | 44.8             | 20.7                     | 3.4                 | *          | 3.4   |
| South        | 18.4        | 5.3         | 7.9                | 5.3     | 5.3              | 5.3                      | *                   | *          | *     |
| Midwest      | 18.6        | 4.6         | 14.0               | 14.0    | 4.7              | 4.7                      | *                   | *          | 2.3   |
| West         | 25.9        | 14.8        | 18.5               | 18.5    | 7.4              | 3.7                      | 7.4                 | *          | 3.7   |
| All Sections | 40.9        | 12.1        | 30.2               | 31.8    | 19.7             | 9.7                      | 2.7                 | 1.1        | 4.1   |

\*-Less than .1%

### Petroleum Products Sold (% of total volume)

| Region             | No. 2 | No. 1 | No. 4 | Nos. 5&6 | No. 2<br>for Diesel | Gasoline | Lpg/Lng | Other |
|--------------------|-------|-------|-------|----------|---------------------|----------|---------|-------|
| New England .....  | 85.7  | 2.8   | 0.2   | 0.3      | 4.9                 | 3.7      | 1.4     | 0.8   |
| Mid-Atlantic ..... | 63.5  | 7.4   | 0.1   | 0.2      | 12.3                | 14.2     | *       | *     |
| South .....        | 51.3  | 15.3  | 3.1   | *        | 7.5                 | 18.2     | 2.6     | 2.7   |
| Midwest .....      | 40.9  | 8.7   | *     | *        | 20.3                | 27.7     | 5.5     | *     |
| West .....         | 61.7  | 5.8   | *     | *        | 21.8                | 22.4     | 3.6     | 0.9   |
| All Sections ..... | 60.6  | 8.0   | 0.7   | 0.1      | 13.4                | 17.2     | 2.6     | 0.9   |

\* - Less than .1%

### Percent of Fuel Oil Dealers Who Sell, Install and/or Service HVAC Equipment

| Region             | Percentage |
|--------------------|------------|
| New England .....  | 90.0       |
| Mid-Atlantic ..... | 85.9       |
| South .....        | 31.6       |
| Midwest .....      | 34.2       |
| West .....         | 59.3       |
| All Sections ..... | 56.8       |

### Average Number of Units Installed in Past 12 Months

| Region             | RESIDENTIAL |         |          | COMMERCIAL |         |          |
|--------------------|-------------|---------|----------|------------|---------|----------|
|                    | Burners     | Bollers | Furnaces | Burners    | Bollers | Furnaces |
| New England .....  | 29.7        | 31.9    | 18.0     | 4.5        | 5.4     | 5.3      |
| Mid-Atlantic ..... | 125.1       | 53.7    | 36.0     | 16.6       | 1.9     | 1.8      |
| South .....        | 27.6        | 28.0    | 20.9     | 5.7        | 3.1     | 9.0      |
| Midwest .....      | 12.0        | 7.9     | 38.8     | 19.5       | *       | 9.7      |
| West .....         | 90.9        | 6.3     | 57.9     | I.D.       | I.D.    | I.D.     |
| All Sections ..... | 56.9        | 25.6    | 34.3     | 11.6       | 2.6     | 6.5      |

\* Less than 0.1

I.D. - Insufficient Data

### Percent of Fuel Oil Dealers Who Sell, Install and/or Service Selected HVAC Equipment (Continued)

#### RESIDENTIAL

| Region             | Furnaces | Warm Air<br>Systems | Central<br>Air<br>Condition | Heat Pump | Continuous<br>Air<br>Circulation |
|--------------------|----------|---------------------|-----------------------------|-----------|----------------------------------|
| New England .....  | 94.4     | 77.8                | 22.2                        | 2.8       | 2.8                              |
| Mid-Atlantic ..... | 100.0    | 79.3                | 51.7                        | 13.8      | 10.3                             |
| South .....        | 36.8     | 15.8                | 23.7                        | 13.2      | 2.6                              |
| Midwest .....      | 25.6     | 25.6                | 25.6                        | 4.7       | *                                |
| West .....         | 55.6     | 48.1                | 25.9                        | 11.1      | 7.4                              |
| All Sections ..... | 62.5     | 49.3                | 29.8                        | 9.1       | 4.6                              |

#### COMMERCIAL

| Region             | Furnaces | Warm Air<br>Systems | Central<br>Air<br>Conditioning | Heat Pump |
|--------------------|----------|---------------------|--------------------------------|-----------|
| New England .....  | 58.3     | 50.0                | 30.6                           | 8.3       |
| Mid-Atlantic ..... | 62.1     | 48.3                | 37.8                           | 10.3      |
| South .....        | 7.9      | 7.9                 | 7.9                            | *         |
| Midwest .....      | 18.6     | 16.3                | 14.0                           | 2.3       |
| West .....         | 25.9     | 14.8                | 14.8                           | 7.4       |
| All Sections ..... | 34.6     | 27.5                | 21.0                           | 5.7       |

\* - Less than .1%



# Top 10 Importers of Crude and Product – 1990

## CRUDE OIL AND PRODUCT

| Company             | Headquarters  | Volume<br>(000-b/d) | Percent of<br>U.S. Total |
|---------------------|---------------|---------------------|--------------------------|
| Chevron             | San Francisco | 725                 | 9.11%                    |
| Star                | Houston       | 621                 | 7.81                     |
| Exxon               | New York      | 483                 | 6.07                     |
| Amoco               | Chicago       | 475                 | 5.97                     |
| Sun                 | Philadelphia  | 379                 | 4.76                     |
| Shell               | Houston       | 373                 | 4.69                     |
| Mobil               | Fairfax, Va.  | 336                 | 4.22                     |
| BP America          | Cleveland     | 305                 | 3.83                     |
| Amerada Hess        | New York      | 295                 | 3.71                     |
| Coastal             | Houston       | 286                 | 3.60                     |
| <b>Total Top 10</b> |               | <b>4,478</b>        | <b>53.78</b>             |
| <b>Total U.S.</b>   |               | <b>7,954</b>        |                          |

## DISTILLATE FUEL OIL

| Company             | Headquarters     | Volume<br>(000-b/d) | Percent of<br>U.S. Total |
|---------------------|------------------|---------------------|--------------------------|
| Amerada Hess        | New York         | 64                  | 23.10%                   |
| Cargill             | Minneapolis      | 32                  | 11.55                    |
| Global Petro        | Waltham, Mass.   | 26                  | 9.39                     |
| Coastal             | Houston          | 21                  | 7.58                     |
| Axel Johnson        | New York         | 13                  | 4.69                     |
| Northville          | Melville, N.Y.   | 13                  | 4.69                     |
| G.E. Warren         | Vero Beach, Fla. | 13                  | 4.69                     |
| Citgo               | Tulsa            | 9                   | 3.25                     |
| Aron J & Co.        | New York         | 7                   | 2.53                     |
| Astroline           | Reading, Mass.   | 7                   | 2.53                     |
| <b>Total Top 10</b> |                  | <b>205</b>          | <b>74.01</b>             |
| <b>Total U.S.</b>   |                  | <b>277</b>          |                          |

## CRUDE OIL ONLY

|                     |               |              |              |
|---------------------|---------------|--------------|--------------|
| Chevron             | San Francisco | 655          | 11.15%       |
| Star                | Houston       | 610          | 10.38        |
| Amoco               | Chicago       | 454          | 7.73         |
| Shell               | Houston       | 352          | 5.99         |
| Exxon               | New York      | 325          | 5.53         |
| Sun                 | Philadelphia  | 315          | 5.36         |
| Mobil               | Fairfax, Va.  | 309          | 5.26         |
| BP America          | Cleveland     | 270          | 4.59         |
| U.S. Steel          | Pittsburgh    | 224          | 3.81         |
| Koch                | Wichita, Kan. | 221          | 3.76         |
| <b>Total Top 10</b> |               | <b>3,735</b> | <b>63.56</b> |
| <b>Total U.S.</b>   |               | <b>5,876</b> |              |

## RESIDUAL FUEL OIL

|                     |                  |            |              |
|---------------------|------------------|------------|--------------|
| Amerada Hess        | New York         | 93         | 18.4%        |
| Coastal             | Houston          | 49         | 9.72         |
| Vitol S.A.          | Houston          | 42         | 8.33         |
| Chevron             | San Francisco    | 40         | 7.94         |
| Clarendon Marketing | Stamford, Conn.  | 36         | 7.14         |
| Global Petro        | Waltham, Mass.   | 34         | 6.75         |
| Clark Trading       | Clayton, Mo.     | 24         | 4.76         |
| BP America          | Cleveland        | 21         | 4.17         |
| Solomon Inc.        | Greenwich, Conn. | 18         | 3.57         |
| Sun                 | Philadelphia     | 17         | 3.37         |
| <b>Total Top 10</b> |                  | <b>374</b> | <b>74.21</b> |
| <b>Total U.S.</b>   |                  | <b>504</b> |              |

## FINISHED MOTOR GASOLINE

|                     |                |            |              |
|---------------------|----------------|------------|--------------|
| Amerada Hess        | New York       | 46         | 13.94%       |
| Getty               | Jericho, N.Y.  | 31         | 9.39         |
| Bear Stearns        | New York       | 21         | 6.36         |
| Mobil               | Fairfax, Va.   | 21         | 6.36         |
| Citgo               | Tulsa          | 20         | 6.06         |
| Cumberland Farms    | Canton, Mass.  | 19         | 5.76         |
| Citich (Amer)       | Houston        | 16         | 4.85         |
| Coastal             | Houston        | 15         | 4.55         |
| Texport             | Houston        | 15         | 4.55         |
| Global Petro        | Waltham, Mass. | 14         | 4.24         |
| <b>Total Top 10</b> |                | <b>218</b> | <b>66.06</b> |
| <b>Total U.S.</b>   |                | <b>330</b> |              |

## JET FUELS

|                         |                    |            |              |
|-------------------------|--------------------|------------|--------------|
| Amerada Hess            | New York           | 21         | 20.39%       |
| Citgo                   | Tulsa              | 14         | 13.59        |
| BP America              | Cleveland          | 11         | 10.68        |
| United Airlines         | Elk Grove, Ill.    | 9          | 8.74         |
| Defense Fuel Supp. Ctr. | Alexandria, Va.    | 8          | 7.77         |
| Texport                 | Houston            | 8          | 7.77         |
| Cumberland Farms        | Canton, Mass.      | 7          | 6.80         |
| PanAm World Airways     | New York           | 7          | 6.80         |
| Texaco                  | White Plains, N.Y. | 7          | 6.80         |
| Mobil                   | Fairfax, Va.       | 5          | 4.85         |
| <b>Total Top 10</b>     |                    | <b>97</b>  | <b>94.17</b> |
| <b>Total U.S.</b>       |                    | <b>103</b> |              |

Source: Energy Information Administration, Petroleum Supply Monthly, Special Report, March 1991.

# U.S. Dependency on Crude and Product Imports – 1990

| Year              | Net Imports                    |                              |                     |                             |                    | U.S. Petroleum<br>Products<br>Supplied | Net imports as % of U.S.<br>Petroleum Products Supplied |                                    |                                   |
|-------------------|--------------------------------|------------------------------|---------------------|-----------------------------|--------------------|----------------------------------------|---------------------------------------------------------|------------------------------------|-----------------------------------|
|                   | Total<br>From All<br>Countries | From<br>Arab OPEC<br>Members | % From<br>Arab OPEC | From<br>All OPEC<br>Members | % From<br>All OPEC |                                        | Total<br>From All<br>Countries                          | Total From<br>Arab OPEC<br>Members | Total From<br>All OPEC<br>Members |
| <b>1990 Avg.</b>  | 7,090                          | 2,230                        | 31.5%               | 4,264                       | 60.1%              | 16,916                                 | 41.9%                                                   | 13.2%                              | 25.2%                             |
| 1st Qtr.          | 7,661                          | 2,399                        | 31.3                | 4,578                       | 59.8               | 17,025                                 | 45.0                                                    | 14.1                               | 26.9                              |
| 2nd Qtr.          | 7,648                          | 2,233                        | 29.2                | 4,382                       | 57.3               | 16,873                                 | 45.3                                                    | 13.2                               | 26.0                              |
| 3rd Qtr.          | 7,475                          | 2,501                        | 33.5                | 4,597                       | 61.5               | 17,083                                 | 43.8                                                    | 14.6                               | 26.9                              |
| 4th Qtr.          | 5,596                          | 1,791                        | 32.0                | 3,508                       | 62.7               | 16,884                                 | 43.8                                                    | 14.6                               | 21.0                              |
| <b>1989 Avg.</b>  | 7,202                          | 2,128                        | 29.5                | 4,124                       | 57.3               | 17,325                                 | 41.6                                                    | 12.3                               | 23.8                              |
| 1st Qtr.          | 7,080                          | 2,046                        | 28.9                | 3,911                       | 55.2               | 17,719                                 | 40.0                                                    | 11.5                               | 22.1                              |
| 2nd Qtr.          | 7,084                          | 2,055                        | 29.0                | 4,015                       | 56.7               | 16,885                                 | 42.0                                                    | 12.2                               | 23.8                              |
| 3rd Qtr.          | 7,512                          | 2,318                        | 30.9                | 4,383                       | 58.3               | 16,870                                 | 44.5                                                    | 13.7                               | 26.0                              |
| 4th Qtr.          | 7,127                          | 2,091                        | 29.3                | 4,180                       | 58.7               | 17,830                                 | 40.0                                                    | 11.7                               | 23.4                              |
| <b>1988 Avg.</b>  | 6,587                          | 1,837                        | 27.9                | 3,513                       | 53.3               | 17,283                                 | 38.1                                                    | 10.6                               | 20.3                              |
| <b>1987 Avg.</b>  | 5,914                          | 1,272                        | 21.5                | 3,053                       | 51.6               | 16,665                                 | 35.5                                                    | 7.6                                | 18.3                              |
| <b>1986 Avg.</b>  | 5,493                          | 1,160                        | 21.3                | 2,828                       | 52.0               | 16,281                                 | 33.4                                                    | 7.1                                | 17.4                              |
| <b>1985 Avg.</b>  | 4,286                          | 470                          | 11.0                | 1,821                       | 42.5               | 15,726                                 | 27.3                                                    | 3.0                                | 11.6                              |
| <b>1984 Avg.</b>  | 4,715                          | 817                          | 17.3                | 2,037                       | 43.2               | 15,726                                 | 30.0                                                    | 5.2                                | 13.0                              |
| <b>1983 Avg.</b>  | 4,312                          | 630                          | 14.6                | 1,843                       | 42.7               | 15,231                                 | 28.3                                                    | 4.1                                | 12.1                              |
| <b>1982 Avg.</b>  | 4,298                          | 852                          | 19.8                | 2,136                       | 49.7               | 15,296                                 | 28.1                                                    | 5.6                                | 14.0                              |
| <b>1981 Avg.</b>  | 5,401                          | 1,844                        | 34.1                | 3,315                       | 61.4               | 16,058                                 | 33.6                                                    | 11.5                               | 20.6                              |
| <b>1980 Avg.</b>  | 6,385                          | 2,549                        | 39.9                | 4,293                       | 67.2               | 17,056                                 | 37.3                                                    | 14.9                               | 25.2                              |
| <b>1977 Avg.*</b> | 8,565                          | 3,054                        | 37.2                | 6,190                       | 72.3               | 18,431                                 | 46.5                                                    | 17.3                               | 33.6                              |

\*Peak Year

Source: Energy Information Administration, Monthly Energy Review, February 1991, and Petroleum Supply Monthly, February 1991, for last quarter of 1990.

# Petroleum Products Imported — 1988 – 1990

(Add 000 b/d)

|                            | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. |
|----------------------------|------|------|------|------|-----|------|------|------|-------|------|------|------|
| <b>1990</b>                |      |      |      |      |     |      |      |      |       |      |      |      |
| Total Motor Gasoline       | 488  | 468  | 336  | 376  | 609 | 492  | 442  | 357  | 316   | 218  | 316  | 324  |
| Leaded                     | 1    | 0    | 0    | 0    | 2   | 3    | 1    | 6    | 0     | 0    | 0    | 1    |
| Unleaded                   | 416  | 407  | 265  | 327  | 533 | 358  | 372  | 307  | 253   | 192  | 259  | 286  |
| Blending Components        | 71   | 61   | 71   | 49   | 74  | 131  | 70   | 44   | 62    | 24   | 57   | 32   |
| Jet Fuel                   | 157  | 147  | 109  | 103  | 113 | 125  | 85   | 63   | 81    | 65   | 83   | 91   |
| Distillate Fuel Oil        | 501  | 357  | 280  | 308  | 207 | 257  | 229  | 292  | 226   | 190  | 238  | 219  |
| Residual Fuel Oil          | 809  | 640  | 334  | 555  | 507 | 536  | 535  | 574  | 311   | 381  | 386  | 379  |
| Other Petrol. Products (a) | 987  | 835  | 740  | 676  | 863 | 867  | 790  | 820  | 746   | 718  | 673  | 887  |
| <b>1989</b>                |      |      |      |      |     |      |      |      |       |      |      |      |
| Total Motor Gasoline       | 383  | 541  | 451  | 456  | 408 | 427  | 438  | 413  | 406   | 450  | 475  | 381  |
| Leaded                     | 4    | 5    | 3    | 12   | 5   | 6    | 1    | 0    | 0     | 0    | 0    | 0    |
| Unleaded                   | 349  | 416  | 378  | 358  | 351 | 380  | 381  | 360  | 320   | 389  | 406  | 306  |
| Blending Components        | 30   | 118  | 70   | 85   | 52  | 41   | 56   | 53   | 87    | 61   | 69   | 75   |
| Jet Fuel                   | 101  | 120  | 101  | 127  | 120 | 124  | 113  | 90   | 95    | 74   | 91   | 115  |
| Distillate Fuel Oil        | 346  | 331  | 439  | 301  | 290 | 233  | 334  | 254  | 249   | 261  | 307  | 324  |
| Residual Fuel Oil          | 909  | 877  | 706  | 681  | 538 | 533  | 556  | 501  | 454   | 523  | 543  | 680  |
| Other Petrol. Products (a) | 855  | 859  | 724  | 763  | 693 | 685  | 713  | 736  | 770   | 747  | 755  | 615  |
| <b>1988</b>                |      |      |      |      |     |      |      |      |       |      |      |      |
| Total Motor Gasoline       | 391  | 452  | 392  | 448  | 524 | 497  | 556  | 547  | 493   | 400  | 515  | 340  |
| Leaded                     | 7    | 14   | 10   | 9    | 18  | 18   | 10   | 7    | 4     | 2    | 13   | 6    |
| Unleaded                   | 350  | 383  | 339  | 390  | 420 | 410  | 472  | 487  | 439   | 350  | 438  | 271  |
| Blending Components        | 34   | 55   | 43   | 49   | 87  | 69   | 74   | 53   | 50    | 48   | 64   | 63   |
| Jet Fuel                   | 85   | 70   | 97   | 84   | 112 | 78   | 88   | 103  | 61    | 146  | 79   | 74   |
| Distillate Fuel Oil        | 424  | 383  | 247  | 210  | 253 | 222  | 222  | 279  | 307   | 336  | 327  | 409  |
| Residual Fuel Oil          | 805  | 901  | 650  | 495  | 432 | 336  | 479  | 581  | 698   | 603  | 785  | 975  |
| Other Petrol. Products (a) | 814  | 800  | 690  | 866  | 809 | 784  | 852  | 787  | 735   | 793  | 939  | 698  |

(a) Includes kerosine, unfinished oils, motor gasoline blending components, liquefied petroleum gases and other oils.

Source: Energy Information Administration, Weekly Status Reports, 1990 and 1991.

## Role of Imports in Domestic Demand

(Add 000 bbl.)

| Year    | Total Imports |          |          | Domestic Demand for Refined Products |          |          | Imports as % of U.S. Demand |
|---------|---------------|----------|----------|--------------------------------------|----------|----------|-----------------------------|
|         | Total(a)      | b/d Avg. | % Change | Total                                | b/d Avg. | % Change |                             |
| 1990(b) | 3,223,315     | 8,831    | 9.6%     | 6,191,130                            | 16,962   | (2.1%)   | 52.1%                       |
| 1989    | 2,942,265     | 8,061    | 8.9      | 6,323,625                            | 17,325   | —        | 46.5                        |
| 1988    | 2,701,730     | 7,402    | 10.8     | 6,308,295                            | 17,283   | 3.7      | 42.8                        |
| 1987    | 2,437,470     | 6,678    | 7.3      | 6,082,725                            | 16,665   | 2.3      | 40.1                        |
| 1986    | 2,271,760     | 6,224    | 22.8     | 5,945,565                            | 16,281   | 3.5      | 38.2                        |
| 1985    | 1,849,455     | 5,067    | (6.8)    | 5,739,990                            | 15,726   | —        | 32.2                        |
| 1984    | 1,984,505     | 5,437    | 7.6      | 5,739,990                            | 15,726   | 3.2      | 34.6                        |
| 1983    | 1,843,615     | 5,051    | (1.2)    | 5,559,315                            | 15,231   | (0.4)    | 33.2                        |
| 1982    | 1,866,245     | 5,113    | (14.7)   | 5,583,040                            | 15,296   | (4.7)    | 33.4                        |
| 1981    | 2,188,540     | 5,996    | (13.2)   | 5,861,170                            | 16,058   | (5.9)    | 37.3                        |
| 1980    | 2,521,785     | 6,909    | (18.3)   | 6,225,440                            | 17,056   | (7.9)    | 40.5                        |
| 1979    | 3,086,440     | 8,456    | 1.1      | 6,757,245                            | 18,513   | (1.8)    | 45.7                        |
| 1977*   | 3,214,555     | 8,807    | 20.1     | 6,727,315                            | 18,431   | 5.3      | 47.8                        |

(a) Crude oil and products but not crude for Strategic Petroleum Reserve; (b) Preliminary. Special note: Data for 1977 through 1985 are restated to reflect EIA information rather than other sources used in 1984.

Source: American Petroleum Institute, Basic Petroleum Data Book for 1950 through 1976; Energy Information Administration, Monthly Energy Review for 1977 through 1990.

# Crude and Product Imports by PAD (a)...

(Add 000 b/d)

**PAD 1\***

Total crude imports: 1,179,000 b/d. Total product imports: 1,336,000 b/d.

Major Sources: Nigeria, United Kingdom, Venezuela, Virgin Islands.

Major Importers: Amerada Hess, Chevron, Sun, Texaco.

|                              | 1990  | 1989  | % Change<br>1990 vs. 1989 | 1988  | 1987  | 1986  |
|------------------------------|-------|-------|---------------------------|-------|-------|-------|
| Finished gasoline            | 295   | 334   | (11.7)                    | 351   | 324   | 251   |
| Blending components          | 49    | 44    | 11.4                      | 50    | 40    | 43    |
| Unfinished oils              | 113   | 122   | (7.4)                     | 122   | 106   | 82    |
| Liquefied Petroleum gases    | 38    | 27    | 40.7                      | 37    | 38    | 36    |
| Distillates                  | 263   | 284   | (7.4)                     | 270   | 221   | 216   |
| Residual                     | 450   | 566   | (20.5)                    | 556   | 516   | 593   |
| Other products               | 128   | 115   | 11.3                      | 120   | 90    | 92    |
| Total products               | 1,336 | 1,492 | (10.5)                    | 1,508 | 1,335 | 1,313 |
| Crude oil                    | 1,179 | 1,195 | (1.3)                     | 1,164 | 1,109 | 1,056 |
| Total crude oil and products | 2,515 | 2,687 | (6.4)                     | 2,670 | 2,444 | 2,369 |

\*PAD 1 includes Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania, Delaware, Maryland, West Virginia, North and South Carolina, Georgia and Florida.

**PAD 2\***

Total crude imports: 1,116,000 b/d. Total product imports: 123,000 b/d.

Major Sources: Canada, Mexico, Nigeria, Saudi Arabia.

Major Importers: Apex, Ashland, Koch, Shell.

|                           | 1990  | 1989  | % Change<br>1990 vs. 1989 | 1988  | 1987 | 1986 |
|---------------------------|-------|-------|---------------------------|-------|------|------|
| Finished gasoline         | 6     | 5     | 0.2                       | 4     | 4    | 5    |
| Blending components       | (s)   | 0     | —                         | 1     | (s)  | 1    |
| Unfinished oils           | 2     | 0     | —                         | 3     | (s)  | 0    |
| Liquefied Petroleum gases | 75    | 93    | (18.3)                    | 89    | 76   | 962  |
| Distillates               | 6     | 8     | (25.0)                    | 6     | 8    | 8    |
| Residual                  | 2     | 4     | (50.0)                    | 4     | 6    | 4    |
| Other products            | 7     | 7     | —                         | 21    | 8    | 7    |
| Total products            | 123   | 117   | (5.1)                     | 128   | 102  | 107  |
| Crude oil                 | 1,116 | 1,048 | 6.5                       | 923   | 880  | 781  |
| Total crude and products  | 1,214 | 1,165 | (4.2)                     | 1,051 | 982  | 888  |

\*PAD 2 includes North and South Dakota, Nebraska, Kansas, Oklahoma, Minnesota, Iowa, Missouri, Wisconsin, Illinois, Michigan, Indiana, Ohio, Kentucky and Tennessee.

**PAD 3\***

Total crude imports: 3,248,000 b/d. Total product imports: 569,000 b/d.

Major Sources: Mexico, Nigeria, Saudi Arabia, Venezuela.

Major Importers: Arco, Chevron, Texaco, USX (Marathon).

|                           | 1990  | 1989  | % Change<br>1990 vs. '89 | 1988  | 1987  | 1986  |
|---------------------------|-------|-------|--------------------------|-------|-------|-------|
| Finished gasoline         | 14    | 5     | 180.0                    | 9     | 15    | 7     |
| Blending components       | 10    | 13    | (23.1)                   | 7     | 7     | 9     |
| Unfinished oils           | 285   | 217   | 23.9                     | 224   | 169   | 152   |
| Liquefied Petroleum gases | 61    | 45    | 35.6                     | 61    | 53    | 98    |
| Distillates               | 2     | 3     | (33.3)                   | 2     | 6     | 1     |
| Residual                  | 28    | 16    | 75.0                     | 22    | 25    | 33    |
| Other products            | 169   | 172   | (1.7)                    | 91    | 96    | 94    |
| Total products            | 569   | 471   | 20.8                     | 416   | 371   | 394   |
| Crude oil                 | 3,248 | 3,230 | N/A                      | 2,734 | 2,417 | 2,037 |
| Total crude and products  | 3,817 | 3,701 | 3.1                      | 3,150 | 2,788 | 2,431 |

\*PAD 3 includes Alabama, Arkansas, Louisiana, Texas and New Mexico.

**PAD 4\***

Total crude imports: 74,000 b/d.

Total product imports: 12,000 b/d.

Major sources: Canada.

Major Importers: Cenex, Du Pont (Conoco), Exxon, Flying J.

|                           | 1990 | 1989 | % Change<br>1990 vs. 1989 | 1988 | 1987 | 1986 |
|---------------------------|------|------|---------------------------|------|------|------|
| Finished gasoline         | 1    | 1    | —                         | 2    | 2    | 2    |
| Blending components       | 0    | 0    | 0                         | 0    | 0    | (s)  |
| Unfinished oils           | 0    | 0    | 0                         | 0    | 0    | 0    |
| Liquefied Petroleum gases | 9    | 7    | 28.6                      | 12   | 12   | 12   |
| Distillates               | 2    | 2    | —                         | 3    | 2    | 2    |
| Residual                  | (s)  | (s)  | (s)                       | (s)  | (s)  | (s)  |
| Other products            | (s)  | (s)  | (s)                       | 1    | 2    | 5    |
| Total products            | 12   | 10   | 20.0                      | 18   | 18   | 21   |
| Total crude               | 74   | 67   | 10.4                      | 63   | 64   | 54   |
| Total crude and products  | 86   | 77   | 11.7                      | 81   | 82   | 75   |

\*PAD 4 includes Montana, Idaho, Wyoming, Utah and Colorado.

**PAD 5\***

Total crude imports: 258,000 b/d. Total product imports: 67,000 b/d.

Major sources: Indonesia, Canada, People's Republic of China.

Major importers: Chevron, Pacific, Shell, Unocal.

|                           | 1990 | 1989 | % chng<br>1990 vs. 1989 | 1988 | 1987 | 1986 |
|---------------------------|------|------|-------------------------|------|------|------|
| Finished gasoline         | 14   | 18   | (22.2)                  | 21   | 21   | 32   |
| Blending components       | 1    | 1    | —                       | 1    | 14   | 15   |
| Unfinished oils           | 3    | 7    | (57.1)                  | 2    | 4    | 5    |
| Liquefied Petroleum gases | 5    | 6    | (16.7)                  | 10   | 11   | 13   |
| Distillates               | 4    | 5    | (20.0)                  | 3    | 3    | 8    |
| Residual                  | 23   | 24   | (4.1)                   | 12   | 7    | 20   |
| Other products            | 17   | 28   | (39.2)                  | 19   | 14   | 23   |
| Total products            | 67   | 89   | (24.7)                  | 68   | 74   | 116  |
| Crude Oil                 | 258  | 266  | (3.0)                   | 175  | 189  | 182  |
| Total crude and products  | 325  | 355  | (8.4)                   | 243  | 263  | 298  |

\*PAD 5 includes Arizona, Nevada, California, Oregon, Washington, Alaska and Hawaii.

**ALL PADS - U.S. Totals.**

Total crude imports: 5,876,000 b/d. Total product imports: 2,080,000 b/d.

Major sources: see related PAD tables in this section.

Major suppliers: see related PAD tables in this section.

|                           | 1990  | 1989  | % chng<br>1990 vs. 1989 | 1988  | 1987  | 1986  |
|---------------------------|-------|-------|-------------------------|-------|-------|-------|
| Finished gasoline         | 330   | 363   | (9.0)                   | 386   | 366   | 296   |
| Blending components       | 61    | 59    | 3.3                     | 58    | 61    | 68    |
| Unfinished oils           | 404   | 346   | 16.8                    | 351   | 280   | 239   |
| Liquefied Petroleum gases | 187   | 179   | 4.5                     | 210   | 190   | 241   |
| Distillates               | 277   | 302   | (8.3)                   | 283   | 240   | 235   |
| Residual                  | 504   | 610   | (17.4)                  | 595   | 553   | 650   |
| Other products            | 317   | 332   | (4.5)                   | 251   | 210   | 221   |
| Total products            | 2,080 | 2,191 | (5.0)                   | 2,134 | 1,900 | 1,950 |
| Crude Oil                 | 5,876 | 5,808 | N/A                     | 5,059 | 4,639 | 4,111 |
| Total crude and products  | 7,956 | 7,999 | (0.5)                   | 7,193 | 6,539 | 6,061 |

(a) The summaries at the top of each PAD are total figures for 1989, i.e. imports minus exports; the rest of the figures are total imports.

(a) means less than 500 b/d.

Source: Energy Information Administration, Petroleum Supply Monthly, Table 24, February 1991.

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## World Crude Oil Production by Area

(Millions of bbl.)

| Year (a) | United States | Canada | Latin America | Western Europe | Middle East | Africa | Asia-Pacific | Total Free World | Sino Sov. Bloc | Total World |
|----------|---------------|--------|---------------|----------------|-------------|--------|--------------|------------------|----------------|-------------|
| 1989     | 2,779         | 568    | 2,336         | 1,314          | 5,846       | 1,974  | 1,187        | 16,004           | 5,381          | 21,385      |
| 1988     | 2,797         | 589    | 2,303         | 1,389          | 5,297       | 1,828  | 1,148        | 15,351           | 5,511          | 20,862      |
| 1986     | 3,168         | 537    | 2,190         | 1,395          | 4,639       | 1,820  | 1,177        | 13,926           | 5,494          | 20,329      |
| 1984     | 3,250         | 516    | 2,316         | 1,332          | 4,128       | 1,714  | 1,185        | 14,421           | 5,332          | 19,753      |
| 1982     | 3,157         | 463    | 2,256         | 1,078          | 4,622       | 1,630  | 956          | 14,162           | 5,184          | 19,346      |
| 1980     | 3,146         | 521    | 2,036         | 891            | 6,735       | 2,226  | 1,000        | 16,555           | 5,205          | 21,760      |

(a) As of January 1 each year.

Source: American Petroleum Institute, Petroleum Data Book, Vol. XI, January 1991.

## World Crude Oil Reserves by Area

(Millions of bbl.)

| Year (a) | United States | Canada | Latin America | Western Europe | Middle East | Africa | Asia-Pacific | Total Free World | Sino Sov. Bloc | Total World |
|----------|---------------|--------|---------------|----------------|-------------|--------|--------------|------------------|----------------|-------------|
| 1990     | 26,501        | 6,134  | 125,027       | 18,822         | 660,247     | 58,837 | 22,545       | 918,113          | 84,100         | 1,002,213   |
| 1989     | 26,875        | 6,786  | 121,951       | 18,557         | 571,519     | 56,964 | 21,367       | 823,968          | 83,800         | 907,768     |
| 1988     | 27,256        | 6,825  | 114,332       | 22,448         | 564,680     | 55,250 | 19,354       | 810,145          | 79,200         | 889,345     |
| 1986     | 28,416        | 6,500  | 84,242        | 26,413         | 398,036     | 56,734 | 18,856       | 619,197          | 81,370         | 700,567     |
| 1984     | 27,735        | 6,730  | 81,676        | 23,020         | 370,101     | 56,907 | 18,969       | 585,138          | 84,600         | 669,738     |
| 1982     | 29,426        | 7,300  | 84,298        | 24,635         | 362,840     | 56,172 | 19,151       | 584,502          | 85,845         | 670,350     |
| 1980     | 27,051        | 6,800  | 56,473        | 23,476         | 361,947     | 57,072 | 19,355       | 522,174          | 90,000         | 642,175     |

(a) As of January 1 of each year.

Source: American Petroleum Institute, Petroleum Data Book, Vol. XI, January 1991.

## World Crude Oil Refining Capacity by Area

(Hundreds of b/d)

| Year (a) | United States | Other Western Hemisphere | Total Western Hemisphere | Middle East | Africa | Asia-Pacific | Europe | Total Free World | Sino Sov. Bloc | Total World |
|----------|---------------|--------------------------|--------------------------|-------------|--------|--------------|--------|------------------|----------------|-------------|
| 1990     | 16,244        | 9,006                    | 25,250                   | 3,969       | 2,823  | 9,982        | 14,235 | 56,258           | 17,798         | 74,056      |
| 1989     | 15,557        | 8,839                    | 24,396                   | 4,335       | 2,787  | 10,064       | 13,859 | 55,441           | 17,798         | 73,239      |
| 1988     | 15,915        | 8,857                    | 24,772                   | 4,146       | 2,630  | 10,274       | 14,128 | 55,950           | 17,610         | 73,560      |
| 1986     | 15,459        | 8,614                    | 24,073                   | 4,274       | 2,520  | 10,112       | 14,072 | 55,051           | 17,500         | 72,551      |
| 1984     | 16,137        | 9,591                    | 25,728                   | 3,901       | 1,880  | 10,473       | 16,232 | 58,214           | 17,200         | 75,414      |
| 1982     | 17,890        | 10,720                   | 28,610                   | 3,312       | 1,762  | 10,967       | 19,445 | 64,096           | 18,533         | 80,629      |
| 1980     | 17,988        | 10,684                   | 28,672                   | 3,518       | 1,666  | 10,386       | 20,244 | 64,486           | 15,346         | 79,832      |

(a) As of January 1 of each year.

Source: American Petroleum Institute, Petroleum Data Book, Vol. XI, January 1991.

## World Natural Gas Production by Area

(Billions of cubic ft.)

| Year (a) | United States | Canada | Latin America | Western Europe | Middle East | Africa | Asia-Pacific | Total Free World | Sino Sov. Bloc | Total World |
|----------|---------------|--------|---------------|----------------|-------------|--------|--------------|------------------|----------------|-------------|
| 1989     | 18,045        | 4,161  | 3,552         | 6,726          | 3,646       | 2,892  | 4,380        | 43,403           | 30,951         | 74,354      |
| 1988     | 17,842        | 3,990  | 3,526         | 6,594          | 2,890       | 2,089  | 4,073        | 41,004           | 30,314         | 71,318      |
| 1986     | 16,791        | 3,168  | 3,414         | 6,520          | 1,823       | 1,662  | 3,321        | 36,699           | 27,088         | 63,787      |
| 1984     | 18,230        | 2,652  | 3,452         | 6,795          | 1,533       | 1,629  | 2,531        | 36,822           | 23,272         | 60,094      |
| 1982     | 18,520        | 2,546  | 3,072         | 6,142          | 1,799       | 1,169  | 2,177        | 35,425           | 20,258         | 55,683      |
| 1980     | 20,180        | 2,668  | 3,298         | 6,669          | 1,221       | 885    | 2,558        | 37,479           | 21,070         | 58,549      |

(a) As of January 1 of each year.

Source: American Petroleum Institute, Petroleum Data Book, Vol. XI, January 1991.

## Crude Oil Reserves in 20 Leading Nations

| Nation                 | (Add 000 bbl.) |             | % of Free World |       | % of Total World |       |
|------------------------|----------------|-------------|-----------------|-------|------------------|-------|
|                        | 1/1/90         | 1/1/89      | 1990            | 1989  | 1990             | 1989  |
| Saudi Arabia .....     | 254,959,000    | 189,970,000 | 27.9%           | 20.6% | 25.5%            | 18.7% |
| Iraq .....             | 100,000,000    | 100,000,000 | 10.9            | 12.1  | 10.0             | 11.0  |
| Kuwait .....           | 94,525,000     | 91,920,000  | 10.3            | 11.2  | 9.4              | 10.1  |
| Iran .....             | 92,860,000     | 92,850,000  | 10.2            | 11.3  | 9.3              | 10.2  |
| Abu Dhabi .....        | 92,205,000     | 92,205,000  | 10.0            | 11.2  | 9.2              | 10.2  |
| Venezuela .....        | 58,504,000     | 58,283,900  | 6.4             | 7.0   | 5.8              | 6.4   |
| U.S.S.R. ....          | 58,400,000     | 58,500,000  | 6.4             | 7.1   | 5.8              | 6.4   |
| Mexico .....           | 56,365,000     | 54,110,000  | 6.2             | 6.6   | 5.6              | 6.0   |
| United States .....    | 25,860,000     | 26,825,000  | 2.8             | 3.3   | 2.6              | 3.0   |
| China .....            | 24,000,000     | 23,500,000  | 2.6             | 2.9   | 2.4              | 2.6   |
| Libya .....            | 22,800,000     | 22,000,000  | 2.5             | 2.7   | 2.3              | 2.4   |
| Nigeria .....          | 16,000,000     | 16,000,000  | 1.7             | 1.9   | 1.6              | 1.8   |
| Norway .....           | 11,546,204     | 10,435,000  | 1.3             | 1.3   | 1.2              | 1.1   |
| Algeria .....          | 9,200,000      | 8,400,000   | 1.0             | 1.0   | 0.9              | 0.9   |
| Indonesia .....        | 8,200,000      | 8,250,000   | 0.9             | 1.0   | 0.8              | 0.9   |
| India .....            | 7,516,400      | 6,354,000   | 0.8             | 0.8   | 0.7              | 0.7   |
| Canada .....           | 6,133,495      | 6,785,514   | 0.7             | 0.8   | 0.6              | 0.7   |
| Neutral Zone .....     | 5,200,000      | N.R.        | 0.6             | N.R.  | 0.5              | N.R.  |
| Qatar .....            | 4,500,000      | N.R.        | 0.5             | N.R.  | 0.4              | N.R.  |
| Egypt .....            | 4,500,000      | 4,300,000   | 0.5             | 0.5   | 0.4              | 0.5   |
| Total Free World ..... | 917,471,623    | 823,967,751 |                 |       |                  |       |
| Total World .....      | 1,001,571,623  | 907,767,751 |                 |       |                  |       |

N.R.: Not ranked in Top 20 in 1989 data.

Source: American Petroleum Institute, Petroleum Data Book, Vol. X, No. 3, 1990; percentage relationships by NPN.

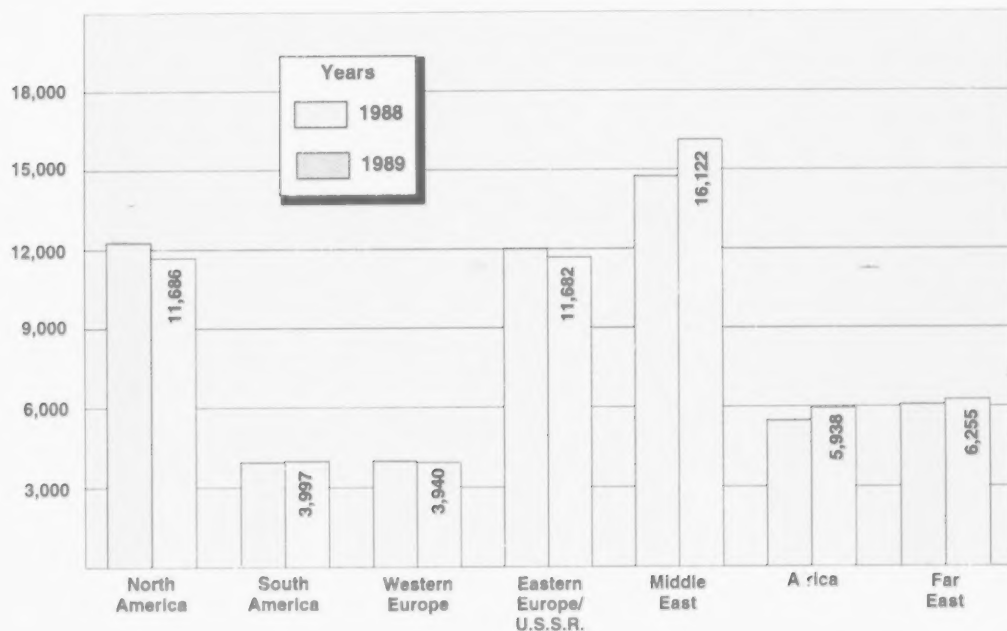
## Crude Oil Production in 20 Leading Nations

| Nation                 | Add 000 bbl.<br>1989 |        | Add 000 bbl.<br>1988 |        | % of<br>Free World |       | % of<br>Total World |       |
|------------------------|----------------------|--------|----------------------|--------|--------------------|-------|---------------------|-------|
|                        | Total                | b/d    | Total                | b/d    | 1989               | 1988  | 1989                | 1988  |
| U.S.S.R. ....          | 4,227,065            | 11,581 | 4,357,230            | 11,938 | 26.4%              | 28.0% | 19.8%               | 20.7% |
| United States (a) ..   | 2,778,773            | 7,613  | 2,979,123            | 8,162  | 17.3               | 19.2  | 13.0                | 14.2  |
| Saudi Arabia (b) ..    | 1,789,960            | 4,904  | 1,876,848            | 5,142  | 11.1               | 12.1  | 8.4                 | 8.9   |
| Iran .....             | 1,043,170            | 2,858  | 835,944              | 2,290  | 6.6                | 5.4   | 4.9                 | 4.0   |
| Iraq .....             | 1,025,285            | 2,809  | 951,234              | 2,606  | 6.4                | 6.1   | 4.8                 | 4.5   |
| China .....            | 1,009,225            | 2,765  | 1,003,572            | 2,750  | 6.3                | 6.5   | 4.7                 | 4.8   |
| Mexico .....           | 953,745              | 2,613  | 953,796              | 2,613  | 6.0                | 6.1   | 4.5                 | 4.5   |
| United Arab Emirates   | 686,930              | 1,882  | 551,196              | 1,510  | 4.3                | 3.6   | 2.6                 | 2.6   |
| Venezuela .....        | 625,245              | 1,713  | 607,926              | 1,666  | 4.0                | 3.9   | 2.8                 | 2.9   |
| United Kingdom ..      | 598,600              | 1,640  | 789,462              | 2,163  | 3.7                | 5.1   | 3.7                 | 3.8   |
| Nigeria .....          | 598,235              | 1,639  | 504,714              | 1,391  | 3.7                | 3.3   | 2.8                 | 2.4   |
| Kuwait (b) .....       | 584,730              | 1,602  | 459,330              | 1,258  | 3.7                | 3.0   | 2.7                 | 2.2   |
| Canada .....           | 567,575              | 1,555  | 588,894              | 1,613  | 3.5                | 3.8   | 2.7                 | 2.8   |
| Norway .....           | 528,155              | 1,447  | 404,430              | 1,108  | 3.3                | 2.6   | 2.5                 | 1.9   |
| Indonesia .....        | 444,205              | 1,217  | 424,194              | 1,162  | 2.8                | 2.7   | 2.1                 | 2.0   |
| Libya .....            | 400,040              | 1,096  | 385,764              | 975    | 2.5                | 2.5   | 1.9                 | 1.8   |
| Egypt .....            | 310,980              | 852    | 310,368              | 850    | 1.9                | 2.0   | 1.5                 | 1.5   |
| Algeria .....          | 253,675              | 695    | 231,678              | 635    | 1.6                | 1.5   | 1.2                 | 1.1   |
| India .....            | 246,740              | 676    | 232,410              | 637    | 1.5                | 1.5   | 1.2                 | 1.1   |
| Oman .....             | 223,745              | 613    | 221,430              | 607    | 1.4                | 1.4   | 1.0                 | 1.1   |
| Total Free World ..... | 16,005,615           | 43,851 | 15,521,328           | 45,524 |                    |       |                     |       |
| Total World .....      | 21,386,810           | 58,594 | 21,032,556           | 57,623 |                    |       |                     |       |

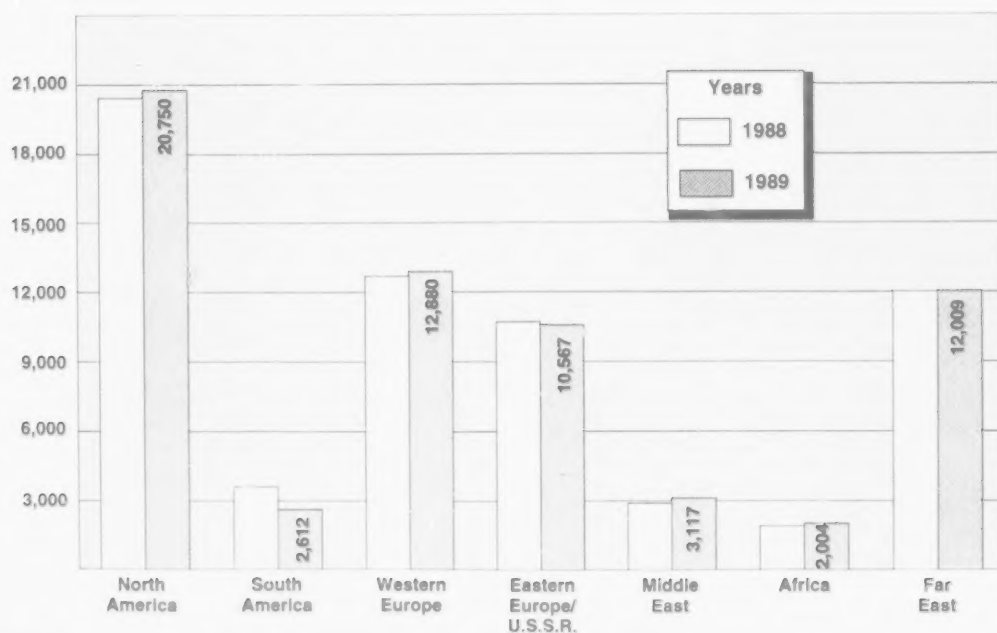
(a) Includes lease condensate; (b) Excludes Neutral Zone Production.

Source: American Petroleum Institute, Petroleum Data Book, Vol. X, No. 3, 1990.

## World Crude Oil Production — 1988 & 1989



## World Petroleum Consumption — 1988 & 1989



Source: Energy Information Administration, International Energy Annual 1989, published March 1991.

## Canadian Supply/Demand Reach New Peaks

Last year, Canadian demand for oil and oil products reached 1-billion bbl. for the first time in more than 10 years. In fact, Canada's petroleum industry attained new highs for the past decade in 1990 in both the supply and demand categories.

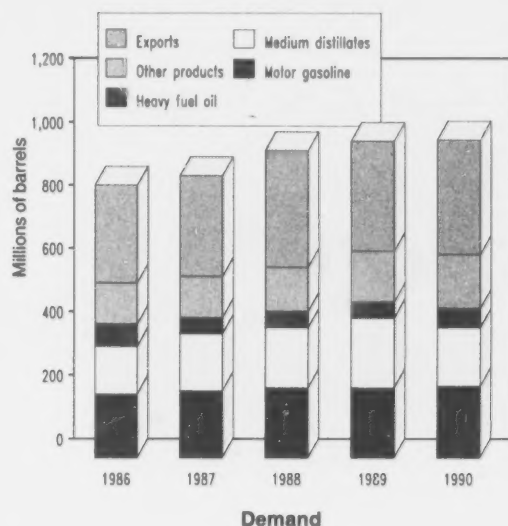
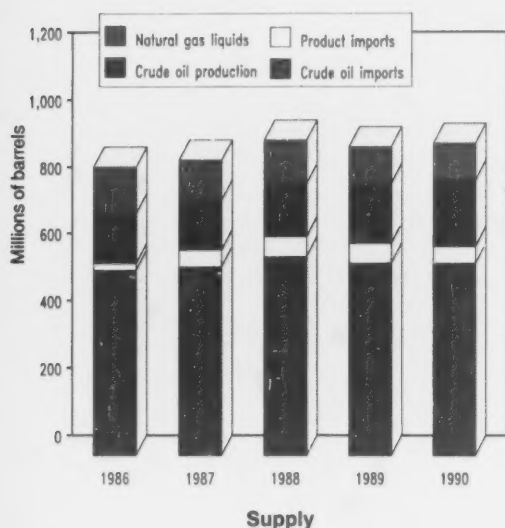
Demand for gasoline, middle distillates, heavy fuel oil, exports and other products

amounted to 1,004-million bbl. (160-million cubic meters) in 1990. This was 22-million bbl., or 2.2%, over the previous year's total.

On the supply side, crude oil and NGL production and crude and product imports totalled 932-million bbl. (156-million cubic meters). Gasoline consumption was up 22-million bbl. to 224-million bbl. and exports

increased from 355-million bbl. in 1989 to 367-million bbl. last year. Canada remained a net petroleum exporter with exports exceeding imports by about 120-million bbl. for the year.

Canadian refined product sales, however, were down slightly in 1990 in such key product categories as gasoline, diesel and light and heavy fuels.



## Refined Product Sales in 1990

(Cubic Meters)\*

| Province                   | Aviation Gas   | Motor Gas         | Aviation Turbine | Kerosine       | Diesel            | Light Fuel       | Heavy Fuel       | Lubes & Greases |
|----------------------------|----------------|-------------------|------------------|----------------|-------------------|------------------|------------------|-----------------|
| Newfoundland.....          | 3,531          | 598,427           | 357,891          | 32,888         | 545,489           | 319,471          | 536,820          | 12,475          |
| Prince Edward Island ..... | 259            | 192,608           | 5,404            | 12,711         | 80,304            | 173,362          | 37,487           | 2,189           |
| Nova Scotia.....           | 1,725          | 1,174,707         | 194,636          | 57,251         | 619,695           | 895,072          | 1,148,784        | 20,380          |
| New Brunswick.....         | 2,591          | 960,329           | 33,514           | 20,310         | 544,156           | 469,677          | 2,097,012        | 22,305          |
| Quebec.....                | 25,161         | 7,247,836         | 1,099,029        | 226,113        | 2,969,544         | 2,097,825        | 2,680,906        | 147,277         |
| Ontario.....               | 46,639         | 12,506,900        | 1,423,544        | 115,817        | 4,379,481         | 1,796,675        | 1,834,676        | 429,737         |
| Manitoba.....              | 14,912         | 1,356,111         | 190,542          | 31,247         | 896,244           | 49,452           | 64,697           | 31,840          |
| Saskatchewan.....          | 10,918         | 1,667,510         | 89,885           | 50,685         | 1,208,460         | 56,730           | 41,767           | 44,379          |
| Alberta.....               | 15,016         | 4,603,089         | 682,265          | 24,098         | 2,802,341         | 60,788           | 71,609           | 112,624         |
| British Columbia.....      | 32,232         | 3,567,809         | 938,148          | 51,397         | 2,562,839         | 415,900          | 1,134,497        | 107,321         |
| Yukon.....                 | 4,144          | 55,311            | 5,270            | 5,077          | 84,290            | 28,678           | 0                | 958             |
| Northwest Territories .... | 7,171          | 43,647            | 71,850           | 59,447         | 149,899           | 63,829           | 7,313            | 2,109           |
| <b>Total 1990.....</b>     | <b>164,299</b> | <b>33,974,284</b> | <b>5,091,978</b> | <b>687,041</b> | <b>16,842,742</b> | <b>6,424,459</b> | <b>9,655,574</b> | <b>933,594</b>  |
| <b>Total 1989.....</b>     | <b>162,380</b> | <b>34,801,177</b> | <b>5,192,574</b> | <b>762,628</b> | <b>17,177,359</b> | <b>6,874,165</b> | <b>9,836,435</b> | <b>934,419</b>  |

\*Cubic meters x 6.2886 = barrels.

Source: Statistics Canada.



# Canadian Oil Companies:

## Branded Service Stations

| Company                            | Total branded retail outlets | Number of provinces where marketed | Supplied directly | Supplied through jobbers & commission agents | Lessee/dealer operated | Salary operated | Commission operated | Full-serve only | Self-serve only | Full-serve/ Self-serve |
|------------------------------------|------------------------------|------------------------------------|-------------------|----------------------------------------------|------------------------|-----------------|---------------------|-----------------|-----------------|------------------------|
| C. Corp. Inc. ....                 | 256                          | 3                                  | 63                | —                                            | 5                      | —               | 58                  | 36              | 24              | 3                      |
| C. Corp. (Ontario) Inc. ....       | 64                           | 2                                  | 0                 | 40                                           | 5                      | 0               | 35                  | 38              | 2               | —                      |
| Canadian Tire Petroleum Div. ....  | 197                          | 7                                  | 197               | —                                            | 20                     | 177             | —                   | 17              | 171             | 9                      |
| Canadian Turbo Inc. ....           | 309                          | 5                                  | 284               | 25                                           | 66                     | 1               | 242                 | 304             | 5               | 0                      |
| Chevron Canada Ltd. ....           | 260                          | 1                                  | 174               | 86                                           | 139                    | —               | 121                 | 107             | 106             | 47                     |
| Esso Petroleum Canada ....         | —                            | —                                  | —                 | —                                            | —                      | —               | —                   | —               | —               | —                      |
| Fas Gas Oil Ltd. ....              | 142                          | 3                                  | 142               | —                                            | —                      | 2               | 140                 | 110             | 32              | —                      |
| Federated Cooperatives Ltd. (a) .. | 355                          | 4                                  | 355               | —                                            | —                      | 330             | 25                  | 300             | 55              | —                      |
| Husky Oil Marketing Co. ....       | 343                          | 6                                  | 115               | 2                                            | 103                    | 0               | 0                   | 112             | 3               | 2                      |
| Les Petroles Caletx Ltee ....      | 45                           | 2                                  | —                 | —                                            | —                      | —               | 45                  | —               | 15              | 30                     |
| Mohawk Oil Co. Ltd. ....           | 266                          | 6                                  | 266               | —                                            | 123                    | 57              | 60                  | 149             | 42              | 75                     |
| Petro-Canada Products ....         | 3,059                        | 12                                 | 1,428             | 0                                            | 2,500                  | 150             | 555                 | 1,259           | 322             | 47                     |
| Shell Canada Ltd. ....             | —                            | —                                  | —                 | —                                            | —                      | —               | —                   | —               | —               | —                      |
| Sunoco Inc. ....                   | 759                          | 2                                  | 721               | 38                                           | 524                    | 46              | 189                 | 565             | 179             | 15                     |
| Sunys Petroleum Inc. ....          | 222                          | 2                                  | 62                | —                                            | 26                     | 0               | 36                  | 59              | 3               | 0                      |
| Ultramar Canada Inc. (b) ....      | 1,675                        | 2                                  | —                 | —                                            | 1,379                  | 0               | 0                   | 1,154           | 198             | 27                     |

(a) does not include 270 Tempo.

(b) does not include the McCall-Frontenac Inc. acquisition in the Maritime Provinces.

\* Includes manned cardlock facilities.

\*\* does not include cardlocks.

## Branded Retail Outlets in Canada

| Company                            | Total branded retail outlets | Number of Provinces | Newfoundland | Nova Scotia | New Brunswick | Quebec | Ontario | Prince Edward Island | Manitoba | Saskatchewan | Alberta | British Columbia | Northwest Territories | Yukon |
|------------------------------------|------------------------------|---------------------|--------------|-------------|---------------|--------|---------|----------------------|----------|--------------|---------|------------------|-----------------------|-------|
| C. Corp. Inc. ....                 | 256                          | 3                   | —            | —           | —             | 153    | 65      | —                    | —        | —            | 38      | —                | —                     | —     |
| C. Corp. (Ontario) Inc. ....       | 64                           | 2                   | —            | —           | —             | 1      | 63      | —                    | —        | —            | —       | —                | —                     | —     |
| Canadian Tire Petroleum Div. ....  | 197                          | 7                   | —            | —           | 4             | 38     | 128     | —                    | 6        | 3            | 14      | 4                | —                     | —     |
| Canadian Turbo Inc. ....           | 309                          | 4                   | 0            | 0           | 0             | 0      | 1       | 0                    | 21       | 71           | 170     | 44               | 0                     | 0     |
| Chevron Canada Ltd. ....           | 260                          | 1                   | —            | —           | —             | —      | —       | —                    | —        | —            | —       | 260              | —                     | —     |
| Esso Petroleum Canada ....         | —                            | —                   | —            | —           | —             | —      | —       | —                    | —        | —            | —       | —                | —                     | —     |
| Fas Gas Oil Ltd. ....              | 142                          | 3                   | —            | —           | —             | —      | —       | —                    | —        | 35           | 96      | 11               | —                     | —     |
| Federated Cooperatives Ltd. (a) .. | 355                          | 4                   | —            | —           | —             | —      | —       | —                    | 59       | 219          | 49      | 28               | —                     | —     |
| Husky Oil Marketing Co. ....       | 343                          | 6                   | —            | —           | —             | —      | 52      | —                    | 21       | 40           | 135     | 90               | —                     | 5     |
| Les Petroles Caletx Ltee ....      | 45                           | 2                   | —            | —           | —             | 40     | 5       | —                    | —        | —            | —       | —                | —                     | —     |
| Mohawk Oil Co. Ltd. ....           | 266                          | 6                   | 0            | 0           | 0             | 0      | 3       | 0                    | 27       | 34           | 101     | 98               | —                     | 3     |
| Petro-Canada Products ....         | 3,059                        | 12                  | 32           | 97          | 84            | 545    | 1,096   | 17                   | 190      | 250          | 309     | 328              | 11                    | —     |
| Shell Canada Ltd. ....             | —                            | —                   | —            | —           | —             | —      | —       | —                    | —        | —            | —       | —                | —                     | —     |
| Sunoco Inc. ....                   | 759                          | 2                   | —            | —           | —             | 234    | 525     | —                    | —        | —            | —       | —                | —                     | —     |
| Sunys Petroleum Inc. ....          | 222                          | 2                   | —            | —           | —             | 30     | 192     | —                    | —        | —            | —       | —                | —                     | —     |
| Ultramar Canada Inc. ....          | 1,674                        | 2                   | 0            | 0           | 0             | 1,017  | 224     | 0                    | 0        | 0            | 0       | 0                | 0                     | 0     |

(a) does not include 270 Tempo.

# How Distribution is Organized

## Branded Jobbers/Commission Agents

### Selling

Total  
Gasoline only  
Fuel Oil only  
Gasoline and Fuel Oil

## Bulk Plants

### Company Operated

Total  
Commission operated  
Jobber operated  
Salary operated

## Terminals

### Company Operated

Total  
Salary operated  
Commission operated  
Jobber operated

|     |     |   |     |      |     |     |    |    |    |   |   |
|-----|-----|---|-----|------|-----|-----|----|----|----|---|---|
| 63  | 63  | — | —   | 0    | —   | —   | —  | 0  | —  | — | — |
| 0   | —   | — | —   | 0    | —   | —   | —  | 0  | —  | — | — |
| 0   | —   | — | —   | 0    | —   | —   | —  | 0  | —  | — | — |
| 53  | 0   | 0 | 53  | 40   | 0   | 38  | 2  | 0  | 0  | 0 | 0 |
| 45  | —   | — | 45* | 33** | —   | 33  | 0  | 2  | 2  | — | 0 |
| —   | —   | — | —   | —    | —   | —   | —  | —  | —  | — | — |
| 140 | 140 | — | —   | 0    | —   | —   | —  | 1  | 1  | — | — |
| 5   | —   | — | 5   | 260  | 255 | 5   | 0  | 1  | —  | — | — |
| 23  | 0   | 0 | 23  | 23   | 0   | 0   | —  | 6  | 0  | 0 | 5 |
| —   | —   | — | —   | —    | —   | —   | —  | 1  | —  | — | — |
| 60  | 60  | — | —   | 0    | —   | —   | —  | 0  | —  | — | — |
| 743 | 555 | 0 | 188 | 325  | 5   | 188 | 29 | 23 | 23 | — | 0 |
| —   | —   | — | —   | —    | —   | —   | —  | —  | —  | — | — |
| 0   | —   | — | —   | 0    | —   | —   | 0  | 0  | —  | — | 0 |
| 254 | 112 | 0 | 142 | 98   | 0   | 98  | —  | 35 | 28 | 7 | 7 |

(a) does not include 270 Tempo.

(b) does not include the McCall-Frontenac Inc. acquisition in the Maritime Provinces.

\* Includes manned cardlock facilities.

\*\* does not include cardlocks.

## Brand Names of Gasoline and Motor Oils

| Gasoline                       | Motor Oil       |
|--------------------------------|-----------------|
| <b>C. Corp. Inc.</b>           |                 |
| Shell                          | Top Value       |
| Sunoco                         | Winks Express   |
| Petro Canada                   |                 |
| Esso                           |                 |
| Ultramar                       |                 |
| Texaco                         |                 |
| <b>Canadian Tire Petroleum</b> |                 |
| Motomaster                     | Nugolo          |
|                                | Supreme         |
|                                | Formula 2000    |
| <b>Canadian Turbo, Inc.</b>    |                 |
| Turbo                          | Flo-Rite        |
|                                | Turbo           |
|                                | Red Ram         |
|                                | Green-Flo       |
| <b>Chevron Canada Ltd.</b>     |                 |
| Chevron (r,ur)                 | Chevron Special |
| Chevron Supreme (up)           | Chevron Supreme |
| <b>Esso Petroleum Canada</b>   |                 |
| Esso (r)                       | HD              |
| Esso 2000 (ur)                 | HDX             |
| Esso Extra Unleaded (up)       | Protec Extra    |
|                                | Protec Ultra    |
| <b>Fas Gas. Oil Ltd.</b>       |                 |
| (ur,up)                        | Hi-Performance  |

| Gasoline                           | Motor Oil                |
|------------------------------------|--------------------------|
| <b>Federated Cooperatives Ltd.</b> |                          |
| Sonic (r,up,p)                     | Sonic Silver             |
| Tempo (r,ur,p)                     | Sonic Gold               |
|                                    | Sonic Green              |
| <b>Husky Oil Marketing Co.</b>     |                          |
| Husky (r,ur,up)                    | Husky Heavy Duty         |
|                                    | Husky Heavy Duty Special |
|                                    | Husky Stratolube         |
|                                    | Husky Strato Plus        |
|                                    | Husky Super Lube         |
|                                    | Husky Super Duty         |
| <b>Mohawk Oil Co. Ltd.</b>         |                          |
| Mohawk (r,ur,up,d)                 | Mohawk Oil Canada        |
|                                    | Spartan                  |
|                                    | Canadian Pride           |
| <b>Petro-Canada Products Inc.</b>  |                          |
| (r,ur,up,us,o)                     | Diesel Tonic             |
|                                    | XHD                      |
|                                    | Maximum                  |
|                                    | Super Plus               |
|                                    | Maximum Plus             |
|                                    | Maximum Supreme          |
| <b>Shell Canada Ltd.</b>           |                          |
| Shell (r,ur,up)                    | Shell X100               |
| Beaver (r,ur,up)                   | Shell TLO                |
|                                    | Shell Extrema            |
|                                    | Rotella                  |

| Gasoline                          | Motor Oil        |
|-----------------------------------|------------------|
| <b>Sunoco, Inc.</b>               |                  |
| Sunoco Regular (r)                | CAM2             |
| Sunoco 1/2 & 1/2 Leaded (r,up)    |                  |
| Sunoco Premium Leaded (r,up)      |                  |
| Sunoco Regular Unleaded (ur)      |                  |
| Sunoco 1/2 & 1/2 Unleaded (ur,up) |                  |
| Sunoco Premium Unleaded (up)      |                  |
| Pronto (r,ur,up)                  |                  |
| <b>Sunys Petroleum Inc.</b>       |                  |
| Sunys (r,ur,p,d)                  |                  |
| Econobec (r,ur,p,d)               |                  |
| <b>Ultramar Canada Inc.</b>       |                  |
| Ultramar                          | UHD              |
| Sterline                          | Ultralube        |
| XL                                | Ultralube Super  |
| Gillies Guy                       | Ultra Super Plus |
| Champion                          | Super Turbo      |

### Key:

|           |                  |
|-----------|------------------|
| Gasoline: |                  |
| (r)       | Regular          |
| (p)       | Premium          |
| (ur)      | Unleaded         |
| (up)      | Unleaded Premium |
| (d)       | Diesel           |

### Motor Oils:

Brand names are listed lowest-price grade first.

## Gasoline Shares by Key Categories—1990

A new study of Canadian retail gasoline market shares was initiated in 1985 by MPSI Inc., Tulsa, Okla., a firm specializing in computer software and information services in addition to market research and planning. Now, MPSI has released its updated 1990 study.

Data for both 1990 and 1989 are presented in the table below to provide an overview of trends within the various

gasoline marketing segments. Also, average gallonage totals are shown in both liters and U.S. gallons. Refer to the companion market share study for the U.S. in this issue's Retail Market section for a comparison between the two countries.

The study presents market shares and percentages of outlets on both a national and regional basis for conventional service stations, gasoline pumps, convenience

stores that sell gasoline, plus a general category of "others" including car washes, garages and other facilities where gasoline is secondary.

This study is concentrated in Canada's metropolitan areas, where most gasoline is marketed. It does not count rural and highway vendors, which while important to the industry, do not add substantially to the overall consumption data.

### Canadian Regional and National Market Shares

| Region                            | Service Stations |         | Pumpers |         | Convenience Food Stores |         | Others |        | Total   |         |
|-----------------------------------|------------------|---------|---------|---------|-------------------------|---------|--------|--------|---------|---------|
|                                   | 1990             | 1989    | 1990    | 1989    | 1990                    | 1989    | 1990   | 1989   | 1990    | 1989    |
| <b>Eastern Region</b>             |                  |         |         |         |                         |         |        |        |         |         |
| • % of Outlets                    | 42.4             | 46.4    | 27.5    | 26.5    | 12.0                    | 10.9    | 18.0   | 16.1   | 100.0   | 100.0   |
| • % of Volume                     | 39.0             | 43.3    | 43.7    | 40.9    | 8.5                     | 8.2     | 6.8    | 7.6    | 100.0   | 100.0   |
| • Avg. Monthly Volume (Liters)*   | 133,524          | 133,022 | 230,217 | 219,561 | 101,754                 | 107,704 | 71,372 | 66,776 | 145,203 | 142,574 |
| • Avg. Monthly Volume (U.S. gal.) | 35,277           | 35,191  | 60,824  | 56,085  | 26,684                  | 28,493  | 18,857 | 17,666 | 38,363  | 37,718  |
| <b>Central Region</b>             |                  |         |         |         |                         |         |        |        |         |         |
| • % of Outlets                    | 47.7             | 49.1    | 36.0    | 35.2    | 4.7                     | 4.0     | 11.6   | 11.7   | 100.0   | 100.0   |
| • % of Volume                     | 42.8             | 44.2    | 49.7    | 48.6    | 3.1                     | 2.7     | 4.4    | 4.5    | 100.0   | 100.0   |
| • Avg. Monthly Volume (Liters)*   | 191,730          | 193,283 | 295,397 | 296,297 | 139,834                 | 144,233 | 80,992 | 83,034 | 213,682 | 214,716 |
| • Avg. Monthly Volume (U.S. gal.) | 50,655           | 51,133  | 78,044  | 78,385  | 36,944                  | 38,157  | 21,380 | 21,967 | 56,450  | 56,804  |
| <b>Western Region</b>             |                  |         |         |         |                         |         |        |        |         |         |
| • % of Outlets                    | 34.1             | 36.8    | 45.7    | 44.0    | 9.9                     | 8.8     | 10.3   | 10.4   | 100.0   | 100.0   |
| • % of Volume                     | 30.8             | 35.6    | 59.6    | 56.0    | 5.4                     | 4.8     | 4.2    | 3.6    | 100.0   | 100.0   |
| • Avg. Monthly Volume (Liters)*   | 172,679          | 185,786 | 249,826 | 244,160 | 104,978                 | 103,939 | 77,322 | 67,429 | 191,378 | 191,957 |
| • Avg. Monthly Volume (U.S. gal.) | 45,622           | 49,150  | 66,004  | 64,593  | 27,735                  | 27,498  | 20,428 | 17,836 | 50,562  | 50,798  |
| <b>Total Canada</b>               |                  |         |         |         |                         |         |        |        |         |         |
| • % of Outlets                    | 42.0             | 44.8    | 35.9    | 34.7    | 8.7                     | 7.7     | 13.4   | 12.8   | 100.0   | 100.0   |
| • % of Volume                     | 38.2             | 41.5    | 51.1    | 48.7    | 5.2                     | 4.7     | 5.5    | 5.1    | 100.0   | 100.0   |
| • Avg. Monthly Volume (Liters)*   | 167,338          | 170,012 | 261,802 | 257,658 | 110,543                 | 113,597 | 75,804 | 72,509 | 184,012 | 183,516 |
| • Avg. Monthly Volume (U.S. gal.) | 44,211           | 44,977  | 69,168  | 68,163  | 29,205                  | 30,052  | 20,027 | 19,182 | 48,616  | 48,549  |

Source: MPSI Inc., Tulsa, Okla.



## Canadian Retail Gasoline Prices Remain 60% Higher Than U.S.

Retail gasoline prices in Canada have returned to the levels of the period preceding Iraq's invasion of Kuwait, but they remain about 60% higher than comparable retail postings in the United States.

According to the March 1991 Petroleum Product Market Research Report published by Energy, Mines and Resources Canada (EMR), Canadian motorists paid an average of about \$1.86 (U.S. dollars) for a gallon

of gasoline in February 1991. That's about 69¢ or 59% higher than the price paid per gallon by U.S. motorists during the same period (see bar chart).

The figures represent major city averages for all grades and types of service in February in both countries. Canadian prices are figured on the basis of the metric system liter (1 gal. = 3.785 liters), but for purposes of this analysis are expressed in U.S. dollars per gallon.

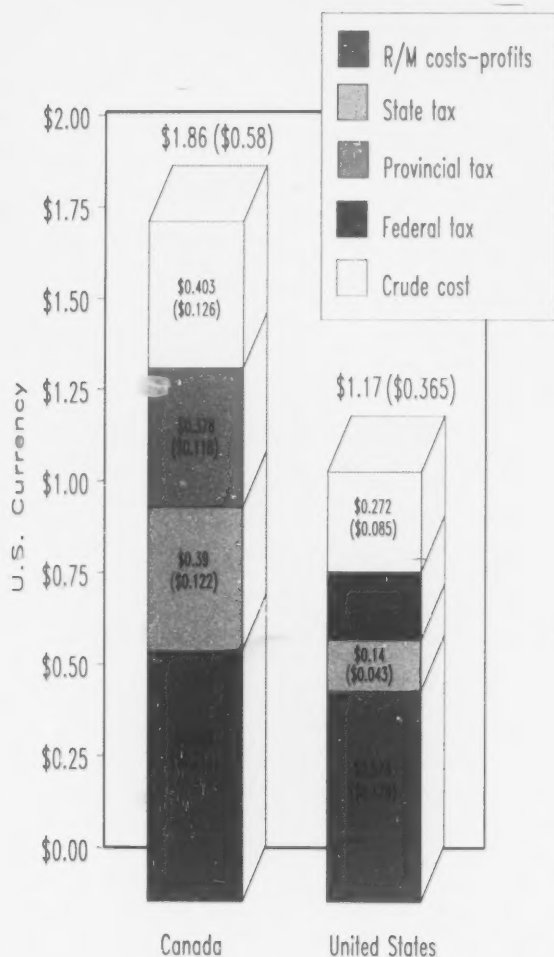
The major factor separating Canadian-U.S. retail price totals is the amount of federal and provincial taxes assessed on gasoline in Canada. However, while federal and state taxes in the U.S. increased substantially over the past year (over 50% at the federal level), Canadian taxes were roughly the same as a year ago.

So, while Canadian taxes accounted for 76% of the Canadian-U.S. price spread in January 1990, that percentage declined to 65% in February 1991. Taxes as a percentage of the total Canadian retail price also dropped from 43.3% to 41.4%.

EMR also reports that the average Canadian pump price for gasoline in February decreased by 22.7¢/gal. from the previous month. This brought the spread between Canadian and U.S. prices in February down about 12¢/gal. from January. Despite the fact that Canadians pay more for gasoline than their neighbors in the United States, prices there are still a bargain when compared to retail prices in other leading countries around the world.

In February, for example, EMR reports that the average retail price in Italy was \$5.09/gal. (U.S. dollars), or almost three times the Canadian price. Taxes accounted for more than 75% of the Italian retail price. In France, motorists paid \$3.84/gal., more than three-fourths of which was taxes. In the United Kingdom, the price was \$3.17/gal. (\$2.05/gal. in taxes); in Spain, the price was \$3.55/gal. (\$2.30 in taxes); and Japanese motorists paid \$3.75/gal. with a tax component of \$1.63/gal.

**Canada vs. U.S. — Motor Gasoline**  
Average Retail Prices. All Grades — February 1991.  
(U.S. cents/gal. — Canadian cents/liter shown in parenthesis.)



Exchange rate — February 1991 = 1.1714



## Canadian Statistics

### Motor Vehicle Registrations — 1989

| Province              | Passenger Cars | Trucks    | Buses  | Motor-cycles | Others | Total Vehicles | Trailers  | Off-Road Snow-mobiles | Other   | Licensed Gasoline Outlets |
|-----------------------|----------------|-----------|--------|--------------|--------|----------------|-----------|-----------------------|---------|---------------------------|
| Newfoundland          | 196,000        | 87,978    | 1,253  | 9,422        | 6,191  | 301,152        | 31,023    | 74,030                | 16,220  | N/A                       |
| Prince Edward Island  | 62,801         | 23,321    | 489    | 1,691        | 75     | 88,377         | 5,090     | 268                   | 371     | N/A                       |
| Nova Scotia           | 394,246        | 155,253   | 1,914  | 14,960       | 435    | 566,902        | 40,631    | 10,013                | 6,723   | N/A                       |
| New Brunswick         | 309,307        | 129,814   | N/A    | 9,901        | 5,364  | 455,252        | 57,371    | N/A                   | 22,248  | 1,200                     |
| Quebec                | 3,273,648      | 96,735    | 15,632 | 88,604       | 50,285 | 3,527,732      | 765,705   | 103,179               | 253,140 | N/A                       |
| Ontario               | 4,701,949      | 1,081,659 | 28,909 | 126,391      | N/A    | 5,943,747      | 1,089,548 | 308,373               | 74,316  | N/A                       |
| Manitoba              | 539,985        | 222,816   | 154    | 12,282       | 30     | 775,267        | 105,968   | 29,546                | 191     | N/A                       |
| Saskatchewan          | 445,677        | 274,552   | 4,356  | 4,783        | 7,202  | 736,638        | 98,131    | 5,284                 | N/A     | N/A                       |
| Alberta               | 1,162,997      | 638,664   | 9,551  | 38,182       | 508    | 1,850,771      | 400,321   | 14,225                | 19,020  | N/A                       |
| British Columbia      | 1,691,976      | 668,456   | N/A    | 60,458       | N/A    | 2,420,890      | 280,563   | 52,689                | N/A     | N/A                       |
| Yukon                 | 9,048          | 15,365    | 181    | 814          | 1,664  | 27,072         | 3,615     | 508                   | N/A     | N/A                       |
| Northwest Territories | 23,684         | 1,261     | 55     | 637          | 92     | 25,729         | 2,583     | 2,321                 | N/A     | N/A                       |
| Canada Total          | 12,811,318     | 3,395,874 | 62,494 | 348,125      | 71,846 | 16,719,529     | 2,880,549 | 800,436               | 392,229 | 1,200                     |

NB: E=Estimated.

\*Off-road Other includes farm tractors, construction equipment, etc.

### Automobiles per Household — 1990

(Estimates in thousands)

| Province                   | Households | Total Households With Vehicles | Households with Automobiles |        |         |                 | Vans or Trucks |        |           |
|----------------------------|------------|--------------------------------|-----------------------------|--------|---------|-----------------|----------------|--------|-----------|
|                            |            |                                | Total                       | 1 Auto | 2 Autos | 3 or More Autos | Without Autos  | With 1 | 2 or More |
| Newfoundland .....         | 173        | 141                            | 116                         | 89     | 24      | 4               | 57             | 53     | N/A       |
| Prince Edward Island ..... | 45         | 38                             | 36                          | 24     | 10      | N/A             | 9              | 12     | N/A       |
| Nova Scotia .....          | 318        | 256                            | 238                         | 176    | 55      | 8               | 79             | 67     | 8         |
| New Brunswick .....        | 247        | 212                            | 193                         | 140    | 45      | 8               | 54             | 70     | 8         |
| Quebec .....               | 2,533      | 2,041                          | 1,927                       | 1,380  | 468     | 78              | 607            | 330    | 21        |
| Ontario .....              | 3,479      | 2,894                          | 2,745                       | 1,824  | 746     | 175             | 735            | 639    | 73        |
| Manitoba .....             | 388        | 321                            | 298                         | 213    | 71      | 15              | 89             | 98     | 15        |
| Saskatchewan .....         | 358        | 311                            | 287                         | 197    | 71      | 19              | 71             | 106    | 27        |
| Alberta .....              | 869        | 770                            | 699                         | 441    | 200     | 58              | 170            | 254    | 74        |
| British Columbia .....     | 1,214      | 1,027                          | 951                         | 627    | 266     | 58              | 263            | 345    | 47        |
| Canada Total .....         | 9,624      | 8,011                          | 7,490                       | 5,111  | 1,956   | 423             | 2,134          | 1,974  | 273       |

### New Motor Vehicle Sales

| Year | Total New Motor Vehicles |                |                | Cars          |         |                  | Commercial Vehicles |                  |
|------|--------------------------|----------------|----------------|---------------|---------|------------------|---------------------|------------------|
|      | Motor Vehicles           | Passenger Cars | Comm. Vehicles | North America | Japan   | Other Countries* | North America       | Other Countries* |
| 1990 | 1,317,620                | 884,537        | 433,083        | 579,372       | 240,626 | 64,539           | 361,220             | 71,863           |
| 1989 | 1,483,875                | 988,314        | 495,741        | 675,340       | 239,548 | 73,246           | 422,398             | 73,343           |
| 1988 | 1,565,501                | 1,056,310      | 509,191        | 724,733       | 243,835 | 87,742           | 459,777             | 49,414           |

\* Excludes Japanese and North American manufactured vehicles.

### Principal Heating Fuels In 1990

(000 Households)

| Province             | Oil   | Piped Gas | Bottled Gas | Electricity | Other | Wood | Total Households |
|----------------------|-------|-----------|-------------|-------------|-------|------|------------------|
| Newfoundland         | 55    | —         | —           | 79          | —     | 38   | 173              |
| Prince Edward Island | 35    | —         | —           | —           | —     | 8    | 45               |
| Nova Scotia          | 195   | —         | 6           | 74          | 5     | 37   | 318              |
| New Brunswick        | 70    | —         | —           | 128         | —     | 47   | 247              |
| Quebec               | 577   | 175       | —           | 1,654       | —     | 127  | 2,533            |
| Ontario              | 571   | 2,064     | 22          | 731         | —     | 89   | 2,479            |
| Manitoba             | 15    | 224       | —           | 134         | —     | 10   | 388              |
| Saskatchewan         | 31    | 290       | 8           | 19          | —     | 10   | 358              |
| Alberta              | 12    | 817       | 15          | 15          | —     | 6    | 869              |
| British Columbia     | 134   | 656       | 11          | 347         | —     | 65   | 1,214            |
| Canada Total         | 1,697 | 4,227     | 68          | 3,183       | 13    | 437  | 9,824            |

NB: Data from a sample survey only.

\*Other includes coal and coke.

— = Amount too small.

Source: All tables on this page from Statistics Canada.

### Drivers' Licenses 1989

| Province              | Operators (Drivers and Chauffeurs) | Temporary (Instructor Permits) |
|-----------------------|------------------------------------|--------------------------------|
| Newfoundland          | 313,687                            | 8,880                          |
| Prince Edward Island  | 82,946                             | N/A                            |
| Nova Scotia           | 562,004                            | 12,460                         |
| New Brunswick         | 446,896                            | 23,726                         |
| Quebec                | 4,027,408                          | N/A                            |
| Ontario               | 6,290,424                          | 374,754                        |
| Manitoba              | 782,398                            | N/A                            |
| Saskatchewan          | 624,964                            | N/A                            |
| Alberta               | 1,855,314                          | 109,346                        |
| British Columbia      | 2,556,539                          | N/A                            |
| Yukon                 | 31,442                             | N/A                            |
| Northwest Territories | 18,287                             | 1,241                          |
| Canada Total          | 17,592,309                         | 530,407                        |

### Factory Sales of Batteries

|                                                                     | 1989      | \$          |
|---------------------------------------------------------------------|-----------|-------------|
| Replacement                                                         |           |             |
| Automotive/Heavy-Duty Commercial                                    | 2,822,714 | 146,685,784 |
| Other Batteries:                                                    |           |             |
| Includes marine, recreational vehicle, and railroad diesel starting | 62,874    | 3,838,352   |
| For Direct Motive Power:                                            |           |             |
| Large cells (includes railroad and fork lift)                       | 173,228   | 25,590,433  |

## LPG Sales by States and Uses—1989

(Add 000 gal.)

|                     | Residential<br>and<br>Commercial | Chemical         | Industrial (1)   | Engine<br>Fuel | Utility<br>Gas | Farm             | Other (2)      | Total (3)         |
|---------------------|----------------------------------|------------------|------------------|----------------|----------------|------------------|----------------|-------------------|
| Alabama.....        | 195,599 *                        | 0 *              | 15,900           | 10,816         | w              | 34,767           | 926            | 259,158           |
| Alaska.....         | 9,738                            | 0                | 756              | 711            | 0              | w                | w              | 11,615            |
| Arizona.....        | 40,498                           | 0                | 12,201 *         | 6,205          | w              | 4,111            | 2,422          | 67,230            |
| Arkansas.....       | 131,578                          | 0 *              | 5,268            | 8,536          | 0              | 49,101           | 2,343          | 197,183           |
| California.....     | 308,260                          | 0 *              | 501,050          | 86,542 *       | w              | 43,711           | 38,906 *       | 993,177           |
| Colorado.....       | 76,002                           | w                | 20,212 *         | 5,600          | 0              | 7,205            | 1,856          | 119,977           |
| Connecticut.....    | 44,030                           | w                | 14,241           | 3,074          | w              | 2,859            | w              | 68,467            |
| Delaware.....       | 26,632                           | w                | 2,912            | 672            | 0              | 7,847            | w              | 42,197            |
| Florida.....        | 253,719 *                        | 0                | 30,927           | 20,716         | 18,003         | 18,568           | 9,309          | 351,277           |
| Georgia.....        | 214,467                          | 0                | 37,282           | 11,403         | 266            | 59,437           | 3,161 *        | 327,485           |
| Hawaii.....         | w                                | 0                | 0                | w              | 0              | w                | w              | 7,784             |
| Idaho.....          | 19,014                           | 0                | 5,467            | 3,878          | 0              | 2,722            | 2,851          | 33,932            |
| Illinois.....       | 253,392                          | w                | 30,187 *         | 37,953         | 3,884          | 104,788          | 4,281 *        | 471,355           |
| Indiana.....        | 295,144                          | w                | 25,764           | 21,560         | w              | 100,648          | 4,613 *        | 455,331           |
| Iowa.....           | 243,767                          | w                | 15,072           | 7,279          | w              | 158,830          | 2,931 *        | 430,481           |
| Kansas.....         | 104,994                          | 80,017           | 47,080 *         | 26,288         | 12,614         | 62,052           | 66,326 *       | 460,982           |
| Kentucky.....       | 160,677                          | w                | 128,859 *        | 10,339         | w              | 24,365           | 1,455          | 338,631           |
| Louisiana.....      | 58,225                           | 555,599          | 25,027 *         | 8,585 *        | 0              | 11,210           | w              | 588,729           |
| Maine.....          | 48,245                           | 0                | 14,230           | 2,958          | 0              | 238              | 0              | 67,986            |
| Maryland & D.C..... | 57,746                           | 0                | 16,682           | 5,622          | 0              | 10,871           | 2,984 *        | 93,973            |
| Massachusetts.....  | 83,127                           | 0                | 11,011           | 5,709          | 9,029          | 781              | 1,185 *        | 111,387           |
| Michigan.....       | 516,947                          | w                | 87,513 *         | 40,437         | w              | 45,435           | 85,865 *       | 875,392           |
| Minnesota.....      | 225,837                          | 0                | 35,438 *         | 8,768          | w              | 73,747           | 580 *          | 347,039           |
| Mississippi.....    | 146,294                          | w                | 40,830 *         | 13,625         | 0              | 22,245           | 661 *          | 243,588           |
| Missouri.....       | 360,652                          | w                | 35,323           | 16,532         | w              | 40,666           | 3,582 *        | 472,996           |
| Montana.....        | 39,539                           | 0                | 12,785 *         | 5,051          | 0              | 2,748            | 4,501          | 65,070            |
| Nebraska.....       | 87,460                           | w                | 12,422           | 9,327          | 0              | 105,684          | 184            | 215,249           |
| Nevada.....         | 41,927                           | w                | 10,585           | 1,927 *        | 0              | 1,811            | 5,724          | 73,703            |
| New Hampshire.....  | 84,545                           | 0                | 9,633            | 1,347          | w              | 59               | 12,659         | 109,589           |
| New Jersey.....     | 68,291                           | 100,940          | 16,651           | 8,049          | 813            | 926              | 4,950 *        | 223,407           |
| New Mexico.....     | 78,783                           | 0                | 5,267 *          | 13,436         | 0              | 7,093            | 793            | 113,994           |
| New York.....       | 205,983                          | 416              | 15,970           | 14,932         | w              | 5,833            | 2,369 *        | 245,893           |
| North Carolina..... | 252,697                          | 611              | 36,132           | 14,903         | w              | 102,933          | 5,733 *        | 414,145           |
| North Dakota.....   | 60,591                           | 0                | 5,399            | 2,511          | w              | 34,353           | 610            | 103,522           |
| Ohio.....           | 326,647                          | 0                | 169,246 *        | 53,217         | w              | 62,662           | 5,062 *        | 678,776           |
| Oklahoma.....       | 109,025                          | 0                | 58,044 *         | 12,124         | w              | 19,412           | 3,298          | 203,428           |
| Oregon.....         | 17,648                           | 0                | 18,937           | 18,148         | w              | 7,348            | 5,315          | 67,427            |
| Pennsylvania.....   | 132,327                          | 0                | 110,270          | 16,601         | w              | 26,240           | 8,905 *        | 295,593           |
| Rhode Island.....   | 14,269                           | 0                | 4,337            | 1,817          | w              | w                | w              | 21,631            |
| South Carolina..... | 109,433                          | w                | 20,030           | 8,651          | 199            | 22,052           | 1,561 *        | 162,126           |
| South Dakota.....   | 102,644                          | 0                | 6,709            | 2,855          | 0              | 104,628          | 1,022          | 217,858           |
| Tennessee.....      | 143,088                          | w                | 22,010           | 22,113         | w              | 7,734            | 3,016 *        | 198,950           |
| Texas.....          | 420,894                          | 5,039,289        | 67,718 *         | 54,941 *       | w              | 65,882 *         | 354,613 *      | 6,043,836         |
| Utah.....           | 22,225                           | w                | 8,289 *          | 5,301          | 0              | 1,508            | w              | 54,404            |
| Vermont.....        | 60,795                           | 0                | 3,313            | 1,066          | w              | 245              | w              | 0                 |
| Virginia.....       | 109,133                          | 642 *            | 27,574           | 8,987          | w              | 35,005           | 16,674 *       | 198,186           |
| Washington.....     | 29,895                           | 0                | 71,973           | 24,309         | 0              | 5,366            | 4,885          | 136,428           |
| West Virginia.....  | 20,767                           | w                | 3,004            | 1,908          | 0              | 3,236            | w              | 52,810            |
| Wisconsin.....      | 321,305                          | 0                | 19,396           | 17,320         | 0              | 44,734           | 6,517 *        | 409,645           |
| Wyoming.....        | 28,143                           | w                | 19,820 *         | 3,349          | 0              | 2,293            | 2,534          | 65,868            |
| <b>Total.....</b>   | <b>6,771,552</b>                 | <b>5,950,747</b> | <b>2,282,485</b> | <b>689,629</b> | <b>83,782</b>  | <b>1,556,210</b> | <b>841,199</b> | <b>18,175,604</b> |

\*Propane only; butane withheld.

w - Data withheld to avoid disclosing reports for individual companies. These reports included in totals.

(1) Includes refinery fuel.

(2) Includes secondary recovery of petroleum and synthetic natural gas feedstock.

(3) API data on LP-gas refinery inputs is used in determining LP-gas production/sales in preference to the volume reported by EIA.

Source: American Petroleum Institute and National Propane Gas Assn

# LPG Sales Trends in Recent Years (a)

Major Domestic Markets (Add 000,000 gal.)

| Year | Total U.S. Sales |          | Residential - Commercial |          | Chemical |          | Internal Combustion |          | Industrial |          | Farm  |          |
|------|------------------|----------|--------------------------|----------|----------|----------|---------------------|----------|------------|----------|-------|----------|
|      | Vol.             | % Change | Vol.                     | % Change | Vol.     | % Change | Vol.                | % Change | Vol.       | % Change | Vol.  | % Change |
| 1989 | 18,176           | 8.1%     | 6,772                    | 9.2%     | 5,951    | (1.8%)   | 690                 | (3.5%)   | 2,282      | 26.6%    | 1,556 | 8.0%     |
| 1988 | 16,807           | 4.0      | 6,149                    | 8.4      | 6,057    | (4.0)    | 715                 | (0.4)    | 1,803      | 39.4     | 1,431 | (1.2)    |
| 1987 | 16,157           | 12.8     | 5,671                    | 0.1      | 6,307    | 47.8     | 718                 | (13.5)   | 1,293      | (3.6)    | 1,459 | (10.7)   |
| 1986 | 14,325           | (5.0)    | 5,607                    | (3.2)    | 4,267    | (0.9)    | 821                 | (12.8)   | 1,341      | 3.2      | 1,634 | (4.2)    |
| 1985 | 15,080           | (0.3)    | 5,794                    | 11.4     | 4,307    | 4.8      | 942                 | 1.0      | 1,299      | (31.2)   | 1,706 | 2.6      |
| 1984 | 15,129           | 10.5     | 5,203                    | (14.6)   | 4,109    | 26.7     | 951                 | (30.2)   | 1,888      | 54.7     | 1,663 | 40.7     |
| 1983 | 13,688           | (1.6)    | 6,090                    | (1.5)    | 3,244    | (3.5)    | 1,362               | 9.8      | 1,220      | (6.9)    | 1,183 | (8.0)    |
| 1982 | 13,915           | (3.3)    | 6,180                    | (2.1)    | 3,362    | (3.2)    | 1,240               | 9.7      | 1,310      | (5.0)    | 1,285 | (12.1)   |
| 1981 | 14,395           | (3.8)    | 6,310                    | (3.4)    | 3,474    | (3.1)    | 1,130               | 3.6      | 1,380      | (10.9)   | 1,463 | (4.4)    |
| 1980 | 14,969           | (8.9)    | 6,531                    | (4.9)    | 3,584    | (11.3)   | 1,090               | 4.3      | 1,548      | (20.2)   | 1,529 | (15.4)   |
| 1979 | 16,432           | 9.4      | 6,871                    | 1.2      | 4,043    | 12.7     | 1,045               | 5.5      | 1,940      | 44.8     | 1,764 | D        |

This is as far back as the restated API/LPGA data go on sales trends. The figures below are Energy Information Administration data and are not essentially comparable to the restated data above. In the data below, the last column was for "all other uses" instead of farm consumption.

|      |        |      |       |      |       |       |       |       |       |      |       |       |
|------|--------|------|-------|------|-------|-------|-------|-------|-------|------|-------|-------|
| 1977 | 15,508 | -3.2 | 7,169 | -2.0 | 3,578 | -12.4 | 1,145 | -2.1  | 1,044 | D    | 2,573 | 7.5   |
| 1975 | 15,200 | -6.8 | 7,020 | -2.9 | 4,172 | -23.0 | 1,162 | -11.3 | 1,082 | 1.2  | 1,763 | 38.3  |
| 1970 | 15,271 | 26.6 | 7,569 | 41.6 | 5,003 | 24.8  | 1,336 | 11.9  | 897   | 32.1 | 467   | 125.6 |
| 1965 | 11,434 | 33.7 | 5,346 | 26.5 | 4,008 | 54.6  | 1,194 | 33.0  | 679   | 13.9 | 207   | -23.0 |
| 1960 | 8,579  | 40.1 | 4,225 | 50.8 | 2,593 | 36.5  | 898   | 37.7  | 596   | 13.7 | 269   | 9.3   |

(a) In 1984, Energy Information Administration suddenly terminated collection of LPG sales data for budgetary reasons. American Petroleum Institute, Liquefied Petroleum Gas Assn. and others began a cooperative effort to provide the missing data annually. The 1983 and 1984 data were published in March, 1986. The new information is based on EIA data, plus API and LPGA, and are restated for the years 1979 through 1984. Utility gas, refinery fuel and miscellaneous uses are included in U.S. totals but are not stated separately.

Source: NPGA and API.

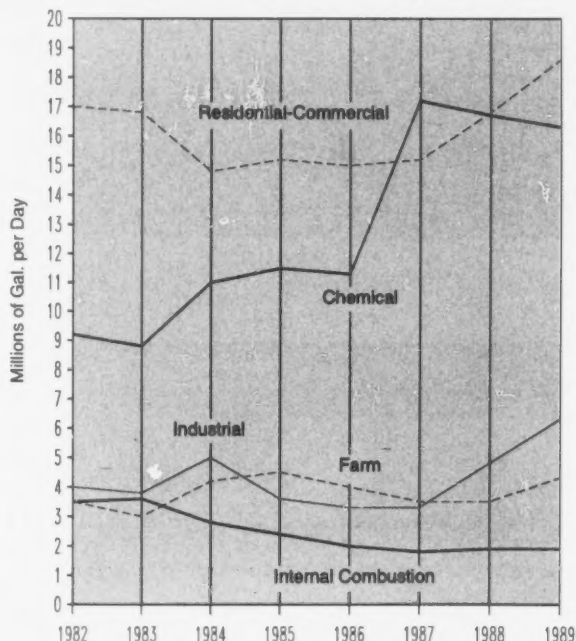
## LPG Sales Hit New Heights in 1989—Industrial and Residential-Commercial Show Biggest Gains

It was another banner year in 1989 for sales of liquefied petroleum gas (LPG). Overall consumption of LPG was up 8.1% for the year to over 18-billion gal., compared to 16.8-billion gal. in 1988. It was the third straight year of sales increases after the industry hit its lowest point of the decade in 1986 with sales of 14.3-billion gal.

Once again, demand for LPG soared in the industrial markets, increasing by over 25% in 1989 vs. 1988. After flat or declining sales throughout most of the 1980's, industrial sales jumped 76% in the last two years of the decade. Residential-commercial and farm consumption also showed healthy gains in 1989, increasing 9.2% and 8.0% respectively.

In the table above, LPG used in refineries is included in industrial consumption. Other secondary uses are lumped together in the U.S. total.

## Principle Uses of LPG by Sectors



## LPG Sales by States, 1983 — 1989

(Add 000 gal.)

| State               | 1989              | 1988              | 1987              | 1986 [4]          | 1985              | 1984 [2, 3]       | 1983 [1]          |
|---------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Alabama.....        | 259,158           | 203,460           | 199,719           | 175,072           | 174,219           | 178,075           | 206,881           |
| Alaska.....         | 11,615            | 11,930            | 11,799            | 13,300            | 14,889            | w                 | 24,783            |
| Arizona.....        | 67,230            | 71,827            | 81,889            | 82,649            | 76,034            | 66,727            | 73,890            |
| Arkansas.....       | 196,961           | 163,669           | 151,705           | 167,503           | 176,381           | 168,904           | 190,425           |
| California.....     | 993,177           | 837,107           | 760,059           | 226,324           | 776,882           | 739,859           | 638,197           |
| Colorado.....       | 119,977           | 109,700           | 93,217            | 89,478            | 105,256           | 103,705           | 167,763           |
| Connecticut.....    | 68,467            | 64,580            | 31,194            | 46,383            | 51,680            | 51,282            | 54,967            |
| Delaware.....       | 42,197            | 43,199            | 36,717            | 33,084            | 41,825            | 49,652            | 43,007            |
| Florida.....        | 351,277           | 344,946           | 351,349           | 431,608           | 399,436           | 347,271           | 396,833           |
| Georgia.....        | 327,485           | 292,240           | 259,010           | 274,184           | 291,335           | 263,364           | 288,923           |
| Hawaii.....         | 7,784             | 7,999             | 7,427             | 6,712             | 6,296             | w                 | 23,140            |
| Idaho.....          | 33,932            | 30,689            | 25,367            | 30,718            | 36,230            | 31,815            | 39,089            |
| Illinois.....       | 471,355           | 626,610           | 724,026           | 764,188           | 788,693           | 794,996           | 624,976           |
| Indiana.....        | 455,331           | 403,965           | 390,877           | 329,913           | 328,805           | 357,416           | 321,871           |
| Iowa.....           | 430,487           | 424,779           | 375,396           | 588,186           | 591,080           | 528,416           | 441,195           |
| Kansas.....         | 460,982           | 440,305           | 321,476           | 212,224           | 611,981           | 756,234           | 345,937           |
| Kentucky.....       | 338,631           | 330,012           | 333,929           | 270,554           | 284,430           | 260,962           | 214,026           |
| Louisiana.....      | 888,729           | 958,783           | 848,555           | 896,539           | 952,434           | 982,522           | 236,384           |
| Maine.....          | 68,463            | 68,253            | 51,248            | 42,465            | 26,533            | 22,935            | 33,096            |
| Maryland & D.C....  | 93,973            | 72,979            | 69,569            | 59,584            | 75,501            | 96,840            | 89,809            |
| Massachusetts.....  | 111,387           | 100,964           | 103,691           | 94,715            | 72,752            | 65,990            | 88,042            |
| Michigan.....       | 875,392           | 832,585           | 817,843           | 801,192           | 720,361           | 484,763           | 431,990           |
| Minnesota.....      | 347,039           | 343,762           | 316,810           | 397,852           | 356,330           | 333,725           | 313,466           |
| Mississippi.....    | 243,588           | 170,510           | 153,275           | 147,132           | 208,514           | 218,242           | 225,201           |
| Missouri.....       | 472,996           | 410,148           | 362,524           | 384,048           | 372,837           | 340,805           | 411,025           |
| Montana.....        | 65,070            | 52,903            | 50,973            | 63,384            | 61,597            | 49,258            | 62,941            |
| Nebraska.....       | 215,249           | 225,479           | 199,576           | 163,284           | 176,763           | 149,236           | 156,875           |
| Nevada.....         | 73,703            | 46,954            | 39,855            | 45,898            | 47,390            | 36,366            | 40,072            |
| New Hampshire....   | 109,589           | 90,831            | 82,561            | 71,272            | 64,713            | 50,017            | 59,096            |
| New Jersey.....     | 223,407           | 263,048           | 252,581           | 207,911           | 232,104           | 264,907           | 111,901           |
| New Mexico.....     | 113,994           | 67,582            | 67,733            | 71,050            | 140,102           | 153,130           | 158,873           |
| New York.....       | 245,893           | 226,611           | 221,553           | 208,275           | 207,808           | 208,193           | 262,584           |
| North Carolina..... | 414,145           | 341,971           | 358,596           | 314,373           | 323,996           | 299,367           | 282,743           |
| North Dakota.....   | 103,522           | 92,014            | 88,589            | 89,402            | 26,811            | 31,464            | 47,813            |
| Ohio.....           | 678,776           | 581,431           | 534,490           | 520,397           | 603,114           | 504,464           | 662,365           |
| Oklahoma.....       | 203,428           | 242,701           | 241,441           | 280,609           | 400,132           | 272,150           | 249,347           |
| Oregon.....         | 67,427            | 66,488            | 64,205            | 71,896            | 67,666            | 60,694            | 68,683            |
| Pennsylvania.....   | 295,593           | 243,484           | 205,314           | 186,764           | 228,144           | 239,876           | 225,533           |
| Rhode Island.....   | 21,631            | 23,842            | 26,112            | 24,500            | 20,888            | 12,962            | 15,338            |
| South Carolina..... | 162,126           | 152,734           | 145,110           | 122,967           | 134,045           | 108,489           | 125,485           |
| South Dakota.....   | 217,858           | 101,005           | 139,392           | 104,189           | 86,254            | 69,586            | 88,814            |
| Tennessee.....      | 198,950           | 187,459           | 146,307           | 166,793           | 149,979           | 137,847           | 138,024           |
| Texas.....          | 6,043,836         | 5,550,190         | 5,556,446         | 3,730,949         | 3,749,674         | 4,066,334         | 1,000,960         |
| Utah.....           | 54,404            | 51,303            | 51,043            | 48,993            | 60,931            | 62,630            | 66,121            |
| Vermont.....        | 66,693            | 50,353            | 44,281            | 37,026            | 33,848            | 28,321            | 38,814            |
| Virginia.....       | 198,186           | 185,097           | 165,871           | 141,903           | 162,529           | 157,263           | 113,591           |
| Washington.....     | 136,428           | 100,360           | 106,532           | 94,972            | 88,627            | 92,533            | 96,114            |
| West Virginia.....  | 52,810            | 44,375            | 38,622            | 38,200            | 35,663            | 15,031            | 22,178            |
| Wisconsin.....      | 409,646           | 374,336           | 321,334           | 346,983           | 361,689           | 364,777           | 337,044           |
| Wyoming.....        | 65,888            | 80,038            | 99,922            | 67,828            | 76,241            | 75,340            | 88,071            |
| <b>Totals.....</b>  | <b>18,175,604</b> | <b>16,807,500</b> | <b>16,157,120</b> | <b>14,325,445</b> | <b>15,079,822</b> | <b>14,789,925</b> | <b>10,443,456</b> |

w-Data withheld to avoid disclosing reports to individual companies. These reports included in totals.

(1) Does not include chemical feedstock use.

(2) Includes chemical feedstock use - 1984 and succeeding years.

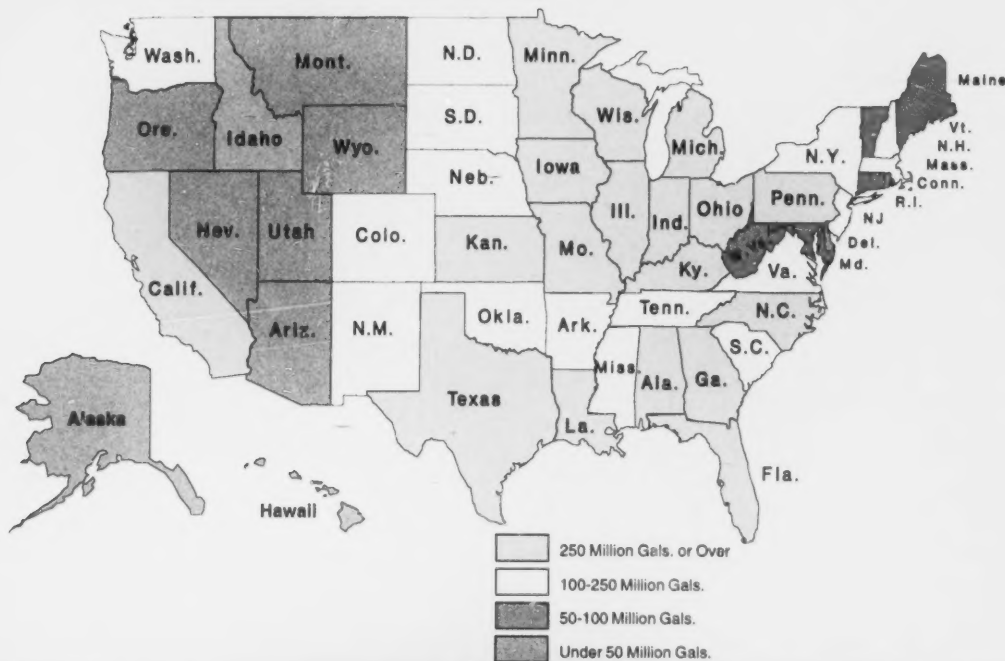
(3) API data on LP-gas refinery inputs is used in determining LP-gas production/sales in preference to the volume reported by EIA - 1984 and succeeding years.

(4) Significant changes from 1985 and earlier LP-gas sales in some states are based on additional information furnished to API by several natural gas liquids pipeline companies.

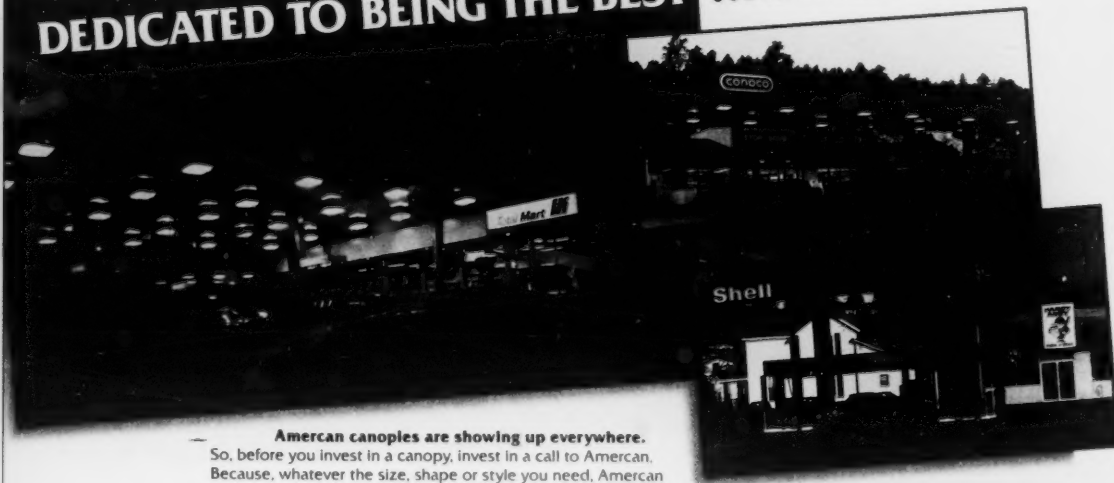
Source: NPGA and API.



## Where LP Gas Was Used in 1989



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## Lube Sales Hold the Line

The National Petroleum Refiners Assn.'s annual lubricants survey shows that sales slipped again in 1990 for the third consecutive year. The margin, however, was so slight that it was hardly noticeable—0.7% in 1990 versus 0.8% the previous year.

There was some good news at that, however, even with the slippage. Preliminary figures last year indicated 1989 would be down 1.6%. The revised figures cut that loss in half.

The NPRA report does not give volumes, only indexes and percentages that are based on the reports of participating companies. To preserve the confidentiality aspects of company sales, the reports are given to an independent auditor who converts them into indexes on an industrywide basis.

The product categories, as defined by NPRA, are these: automotive oil—engine oils, automatic transmission fluids, gear oils and aviation oils; industrial oil—industrial engine oils, metalworking fluids, process oils and general industrial oils; grease—both automotive and industrial greases.

All finished lubricants are included in the NPRA totals. Not included, however, are exports and lube base stocks sold for further blending into finished lubricants.

NPRA stated that the data reflect the sales of the participating companies only. Sales of finished lubricants by other companies (commonly known as independent compound blenders) are not covered.

For its categories, NPRA used 55.5% of the sales for automotive oils, 42.3% for industrial oils and 2.2% for greases.

### Quarterly Indexes on Lubricant Sales

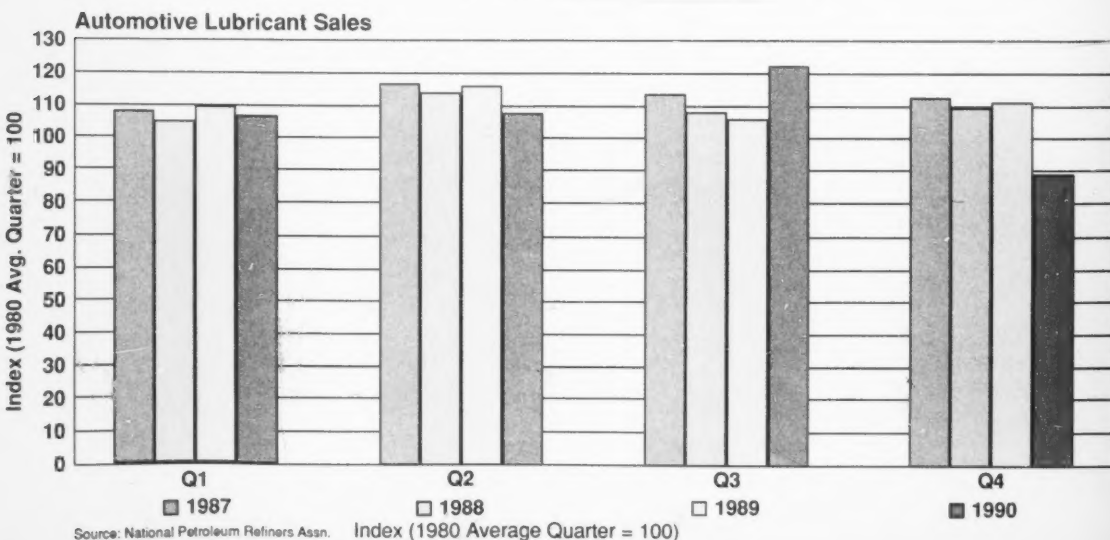
|          | Quarters |       |       |       | Full Year |
|----------|----------|-------|-------|-------|-----------|
|          | 1        | 2     | 3     | 4     |           |
| 1990 (p) | 102.9    | 104.5 | 114.6 | 90.7  | 103.2     |
| 1989 (r) | 104.2    | 109.1 | 103.1 | 99.1  | 103.9     |
| 1988     | 102.5    | 110.5 | 107.6 | 98.3  | 104.7     |
| 1987     | 101.2    | 108.5 | 108.6 | 101.3 | 104.9     |
| 1986     | 100.4    | 107.2 | 104.4 | 93.7  | 101.4     |
| 1985     | 99.5     | 107.7 | 103.5 | 95.4  | 101.5     |
| 1984     | 103.1    | 108.5 | 106.2 | 97.5  | 103.8     |

### Percentage Changes by Products and Quarters

|                          | Quarters    |             |              |             | Full Year   |
|--------------------------|-------------|-------------|--------------|-------------|-------------|
|                          | 1           | 2           | 3            | 4           |             |
| <b>1990 vs. 1989 (p)</b> |             |             |              |             |             |
| Automotive               | -3.5%       | -7.1%       | 14.9%        | -12.5%      | -2.0%       |
| Industrial               | 2.1         | 0.2         | 6.0          | -2.9        | 1.4         |
| Grease                   | -6.2        | -5.5        | 8.5          | -8.3        | -2.8        |
| <b>Total</b>             | <b>-1.3</b> | <b>-4.2</b> | <b>11.2</b>  | <b>-8.5</b> | <b>-0.7</b> |
| <b>1989 vs. 1988 (r)</b> |             |             |              |             |             |
| Automotive               | 5.3%        | 1.7%        | -1.0%        | 2.6%        | 2.1%        |
| Industrial               | -3.0        | -5.1        | -7.7         | -1.0        | -4.3        |
| Grease                   | -4.6        | -11.3       | -18.0        | -13.3       | -12.1       |
| <b>Total</b>             | <b>1.7</b>  | <b>-1.3</b> | <b>-42.0</b> | <b>0.8</b>  | <b>-0.8</b> |
| <b>1988 vs. 1987</b>     |             |             |              |             |             |
| Automotive               | -3.6%       | -1.9%       | -5.4%        | -3.2%       | -3.5%       |
| Industrial               | 8.6         | 7.7         | 5.0          | -2.5        | 4.6         |
| Grease                   | 5.1         | 6.6         | 11.3         | -2.4        | 5.1         |
| <b>Total</b>             | <b>1.3</b>  | <b>1.9</b>  | <b>-0.9</b>  | <b>-2.9</b> | <b>-0.1</b> |
| <b>1987 vs. 1986</b>     |             |             |              |             |             |
| Automotive               | 6.1%        | 0.5%        | 1.8%         | 6.2%        | 3.4%        |
| Industrial               | -6.0        | 2.9         | 8.7          | 11.4        | 4.0         |
| Grease                   | -9.6        | -8.0        | -13.5        | -0.5        | -8.0        |
| <b>Total</b>             | <b>0.7</b>  | <b>1.2</b>  | <b>4.0</b>   | <b>8.1</b>  | <b>3.4</b>  |

(p) preliminary for 1990; (r) revised for 1989

N.B. for the index, the average quarter in 1980=100%; the base for quarterly indexes is 1980 full-year sales for the reporting companies divided by four.  
Source: National Petroleum Refiners Assn.



# Lube Sales Rise 4.6% in 1990, EIA Says

Although imports and exports were down slightly, lubricant sales were up 4.6% in 1990, Energy Information Administration's annual report says.

Stocks also were down a whopping 10.5% at year's end, most of them, as usual, being held in refineries vs. bulk terminals. Refinery production last year was up 2.4% over 1989.

Puerto Rico continued to be the principal exporter of lubricants to the U.S., followed by Canada and the People's Republic of China. Puerto Rico supplied 2,557,000 bbl. Canada, 738,000 bbl. and China, 132,000 bbl. Other suppliers were Japan, 31,000 bbl.; Netherlands, 30,000 bbl.; Portugal, 22,000 bbl.; Brazil, 18,000 bbl. and Spain, 12,000 bbl.

Of the 3,540,000 bbl. of imports, PAD No. 1 led the parade with 3,072,000 bbl. PAD 2 had 305,000 bbl. of imports, PAD 3 had 93,000 bbl. and PAD 5, 70,000 bbl. PADs 1 and 3 accounted for the bulk of the U.S. exports. PAD 4 had no import totals at all, EIA said.

## Lubricants—Supply, Disposition and Stocks (Thousands of bbl.)

|      | Refinery<br>Production | Imports | Stock<br>Changes | Exports | Products<br>Supplied | Ending Stocks |            |        |
|------|------------------------|---------|------------------|---------|----------------------|---------------|------------|--------|
|      |                        |         |                  |         |                      | Refinery      | Bulk Term. | Total  |
| 1990 | 61,155                 | 3,540   | (1,453)          | 7,155   | 58,993               | 7,840         | 4,533      | 12,373 |
| 1989 | 59,738                 | 4,005   | 528              | 6,815   | 56,400               | 9,183         | 4,643      | 13,826 |
| 1988 | 62,478                 | 3,658   | 19               | 9,018   | 57,137               | 9,475         | 3,823      | 13,298 |
| 1987 | 61,639                 | 4,076   | 1,475            | 8,613   | 58,577               | 9,410         | 3,907      | 13,317 |

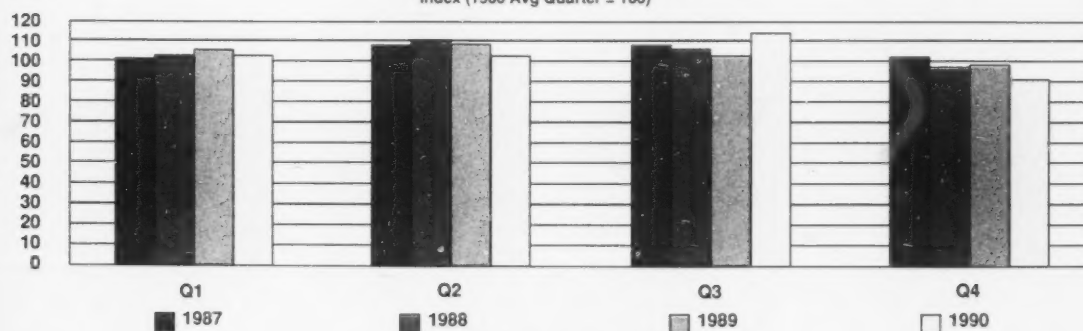
## 1990 Month-by-Month Variations in Supplies

|              | Refinery<br>Production | Imports      | Stock<br>Changes | Exports      | Products<br>Supplied | Refinery     | Bulk Term.   | Total         |
|--------------|------------------------|--------------|------------------|--------------|----------------------|--------------|--------------|---------------|
| Jan.         | 4,848                  | 369          | (229)            | 494          | 4,952                | 8,685        | 4,912        | 13,597        |
| Feb.         | 4,645                  | 394          | (586)            | 432          | 5,193                | 8,623        | 4,388        | 13,011        |
| Mar.         | 5,025                  | 355          | (747)            | 545          | 5,582                | 8,190        | 4,074        | 12,264        |
| Apr.         | 5,183                  | 215          | 89               | 896          | 4,413                | 7,977        | 4,376        | 12,353        |
| May          | 5,110                  | 104          | (97)             | 562          | 4,749                | 7,776        | 4,480        | 12,256        |
| June         | 4,652                  | 202          | 95               | 621          | 4,138                | 7,438        | 4,913        | 12,351        |
| July         | 5,422                  | 366          | 701              | 445          | 4,642                | 7,855        | 5,197        | 13,052        |
| Aug.         | 5,374                  | 297          | (1,035)          | 639          | 6,067                | 7,272        | 4,745        | 12,017        |
| Sept.        | 5,364                  | 328          | (287)            | 635          | 5,344                | 7,257        | 4,473        | 11,730        |
| Oct.         | 4,988                  | 336          | (110)            | 803          | 5,376                | 6,409        | 4,466        | 10,875        |
| Nov.         | 5,539                  | 332          | 1,129            | 534          | 4,208                | 7,184        | 4,820        | 12,004        |
| Dec.         | 5,005                  | 242          | 369              | 547          | 4,331                | 7,840        | 4,533        | 12,373        |
| <b>Total</b> | <b>61,155</b>          | <b>3,540</b> | <b>(1,453)</b>   | <b>7,155</b> | <b>58,993</b>        | <b>7,840</b> | <b>4,533</b> | <b>12,373</b> |

Source: Energy Information Administration, Petroleum Supply Monthly, Jan. to Dec., Tables 2 and 41, 1990

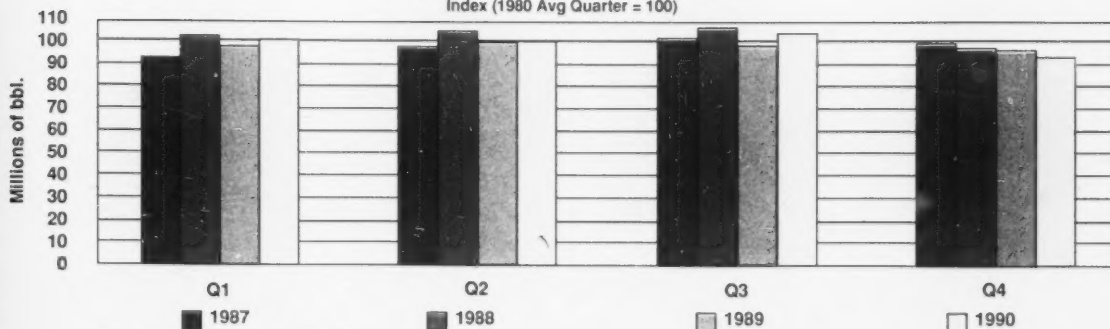
## TOTAL LUBRICANT SALES

Index (1980 Avg Quarter = 100)



## TOTAL LUBRICANT SALES

Index (1980 Avg Quarter = 100)



Source: National Petroleum Refiners Assn.

# U.S. Lubricant Sales: 1989-1985

|                                                         | 1989         | 1988 (a)     | % Chng.<br>'89-'88 | 1987         | 1986         | 1985         |
|---------------------------------------------------------|--------------|--------------|--------------------|--------------|--------------|--------------|
| <b>Total U.S. Lubricant Sales (Millions of Gallons)</b> |              |              |                    |              |              |              |
| Automotive Oil .....                                    | 1,405        | 1,404        | 0.1%               | 1,431        | 1,379        | 1,363        |
| Industrial Oil .....                                    | 987          | 1,011        | (2.4)              | 997          | 921          | 921          |
| <b>Total Oils .....</b>                                 | <b>2,393</b> | <b>2,414</b> | <b>(0.9)</b>       | <b>2,427</b> | <b>2,300</b> | <b>2,284</b> |
| Total Grease .....                                      | 55           | 53           | 3.5                | 56           | 54           | 57           |
| <b>Total Lubricants .....</b>                           | <b>2,448</b> | <b>2,468</b> | <b>—</b>           | <b>2,483</b> | <b>2,354</b> | <b>2,341</b> |

## Byproduct Sales

### Aromatic Oils:

|                             |            |            |              |            |            |           |
|-----------------------------|------------|------------|--------------|------------|------------|-----------|
| Rubber .....                | 74         | 75         | (0.9)        | 72         | 67         | 71        |
| Other .....                 | 13         | 7          | 99.2         | 17         | 16         | 20        |
| <b>Total Aromatic .....</b> | <b>87</b>  | <b>81</b>  | <b>7.3</b>   | <b>89</b>  | <b>83</b>  | <b>92</b> |
| <b>Total Wax .....</b>      | <b>248</b> | <b>252</b> | <b>(1.6)</b> | <b>244</b> | <b>224</b> | <b>92</b> |

## Automotive Oil Sales by Category

### SAE J-183a, Engine Oils:

|                    |              |              |          |              |              |              |
|--------------------|--------------|--------------|----------|--------------|--------------|--------------|
| Monograded .....   | 329          | 345          | (4.9)    | 363          | 364          | 382          |
| Multigraded .....  | 801          | 766          | 4.6      | 773          | 734          | 700          |
| <b>Total .....</b> | <b>1,130</b> | <b>1,111</b> | <b>—</b> | <b>1,136</b> | <b>1,097</b> | <b>1,082</b> |

### Non-SAE J-183a, Engine Oils:

|                                  |           |           |               |           |           |           |
|----------------------------------|-----------|-----------|---------------|-----------|-----------|-----------|
| Aircraft .....                   | 5         | 5         | 2.5           | 7         | 8         | 9         |
| Gasoline-Fueled Two Stroke ..... | 12        | 15        | (16.4)        | 16        | 15        | 15        |
| <b>Total .....</b>               | <b>17</b> | <b>20</b> | <b>(23.0)</b> | <b>23</b> | <b>23</b> | <b>24</b> |

### Transmission/Hydraulic Fluids

|                                      |            |            |              |            |            |            |
|--------------------------------------|------------|------------|--------------|------------|------------|------------|
| Automatic Trans. Fluids .....        | 139        | 149        | (6.2)        | 150        | 143        | 144        |
| Univ. Tractor, Hydr./Trans. 59 ..... | 59         | 60         | (1.7)        | 58         | 55         | 49         |
| Energy/Shock Ab., Power St. 11 ..... | 11         | 12         | (8.6)        | 10         | 10         | 10         |
| Other .....                          | 3          | 3          | 7.8          | 2          | 2          | 3          |
| <b>Total .....</b>                   | <b>212</b> | <b>223</b> | <b>(4.9)</b> | <b>220</b> | <b>210</b> | <b>206</b> |

### Gear Oils:

|                    |           |           |              |           |           |           |
|--------------------|-----------|-----------|--------------|-----------|-----------|-----------|
| GL-4 or Less ..... | 7         | 6         | (14.0)       | 5         | 5         | 6         |
| GL-5 .....         | 39        | 44        | (10.8)       | 46        | 44        | 46        |
| <b>Total .....</b> | <b>46</b> | <b>50</b> | <b>(7.9)</b> | <b>51</b> | <b>49</b> | <b>52</b> |

## Industrial Lubricant Sales

### General Industrial Oils:

|                             |            |            |              |            |            |            |
|-----------------------------|------------|------------|--------------|------------|------------|------------|
| Hydraulic Oils .....        | 197        | 206        | (4.2)        | 211        | 199        | 202        |
| Fire-Resistant Fluids ..... | 14         | 14         | —            | 15         | 13         | 12         |
| Gear Oils .....             | 38         | 38         | 0.3          | 39         | 35         | 37         |
| All Others .....            | 30         | 37         | (19.0)       | 43         | 35         | 33         |
| <b>Total .....</b>          | <b>360</b> | <b>374</b> | <b>(3.7)</b> | <b>389</b> | <b>357</b> | <b>367</b> |

### Industrial Engine Oils:

|                         |            |            |              |            |            |            |
|-------------------------|------------|------------|--------------|------------|------------|------------|
| Railroad Diesel .....   | 42         | 49         | (15.5)       | 49         | 51         | 55         |
| Marine .....            | 56         | 55         | 3.3          | 48         | 47         | 43         |
| Natural Gas .....       | 43         | 43         | 0.1          | 40         | 39         | 42         |
| <b>Total .....</b>      | <b>141</b> | <b>146</b> | <b>(3.7)</b> | <b>137</b> | <b>137</b> | <b>139</b> |
| Metalworking Oils ..... | 72         | 74         | (3.4)        | 83         | 76         | 89         |
| Process Oils .....      | 414        | 416        | (0.5)        | 387        | 352        | 327        |

(a) Data revised according to revisions submitted by respondents.

Source: National Petroleum Refiners Assn. 1989 Report on U.S. Lubricating Oil Sales. Survey data compiled by Ernst & Young, Washington, D.C.



# Gasoline Consumption by States—1990

(Includes highway and off-highway consumption)

(Add 000 gal.)

|                     | Rank |      | Gallons (a) |             | % Chng. | Gasohol Included |           |
|---------------------|------|------|-------------|-------------|---------|------------------|-----------|
|                     | 1990 | 1989 | 1990        | 1989        |         | 1990             | 1989 (b)  |
| Alabama.....        | 20   | 19   | 2,122,444   | 2,122,111   | —       | 197,856          | 195,725   |
| Alaska.....         | 50   | 50   | 274,133     | 239,017     | 14.7%   | —                | 12        |
| Arizona.....        | 25   | 25   | 1,678,470   | 1,744,554   | (3.8)   | —                | —         |
| Arkansas.....       | 32   | 32   | 1,264,427   | 1,274,999   | (0.8)   | —                | —         |
| California.....     | 1    | 1    | 13,304,359  | 13,338,831  | (0.3)   | 479,716          | 369,185   |
| Colorado.....       | 27   | 26   | 1,547,281   | 1,535,449   | 0.8     | 97,263           | 70,522    |
| Connecticut.....    | 28   | 28   | 1,445,681   | 1,386,722   | 4.3     | —                | —         |
| Delaware.....       | 47   | 47   | 346,981     | 349,255     | (0.7)   | —                | —         |
| Dist. of Col.....   | -    | -    | 175,799     | 182,674     | (3.8)   | —                | 333       |
| Florida.....        | 3    | 3    | 6,212,149   | 6,138,092   | 1.2     | 87,396           | 77,657    |
| Georgia.....        | 9    | 9    | 3,571,616   | 3,573,874   | —       | 88,672           | 30,265    |
| Hawaii.....         | 44   | 44   | 388,769     | 392,495     | (0.9)   | —                | —         |
| Idaho.....          | 41   | 41   | 491,663     | 489,747     | 0.4     | 69,374           | 64,830    |
| Illinois.....       | 6    | 5    | 5,224,728   | 4,993,663   | 4.6     | 1,269,126        | 1,278,517 |
| Indiana.....        | 14   | 14   | 2,696,329   | 2,675,098   | 0.8     | —                | 610,320   |
| Iowa.....           | 29   | 29   | 1,376,510   | 1,409,951   | (2.4)   | 374,897          | 385,991   |
| Kansas.....         | 33   | 31   | 1,251,101   | 1,294,231   | (3.3)   | 73,971           | 98,844    |
| Kentucky.....       | 23   | 23   | 1,850,610   | 1,861,889   | (0.6)   | 355,987          | 403,859   |
| Louisiana.....      | 22   | 22   | 2,024,455   | 2,043,286   | (0.9)   | 38,760           | 52,698    |
| Maine.....          | 39   | 38   | 611,394     | 627,639     | (2.6)   | —                | —         |
| Maryland.....       | 18   | 19   | 2,156,151   | 2,157,848   | —       | —                | —         |
| Massachusetts.....  | 16   | 16   | 2,433,953   | 2,520,043   | (3.4)   | —                | —         |
| Michigan.....       | 8    | 8    | 4,371,053   | 4,376,926   | —       | 510,447          | 402,714   |
| Minnesota.....      | 21   | 20   | 2,077,581   | 2,102,362   | (1.2)   | 244,336          | 170,499   |
| Mississippi.....    | 31   | 33   | 1,265,062   | 1,258,286   | 0.5     | —                | —         |
| Missouri.....       | 13   | 13   | 2,752,483   | 2,758,383   | (0.2)   | 245,436          | 157,056   |
| Montana.....        | 42   | 42   | 441,349     | 444,019     | (0.6)   | 314              | 80        |
| Nebraska.....       | 36   | 37   | 795,515     | 801,115     | (0.7)   | 300,632          | 271,082   |
| Nevada.....         | 38   | 39   | 651,818     | 633,297     | 2.9     | 49,167           | 37,342    |
| New Hampshire.....  | 40   | 40   | 510,137     | 527,053     | (3.2)   | —                | —         |
| New Jersey.....     | 11   | 11   | 3,247,006   | 3,531,163   | (8.0)   | —                | —         |
| New Mexico.....     | 35   | 36   | 811,429     | 820,566     | (1.1)   | 156,935          | 171,297   |
| New York.....       | 4    | 4    | 6,112,254   | 5,769,796   | 5.9     | —                | —         |
| North Carolina..... | 10   | 10   | 3,337,499   | 3,369,498   | (0.9)   | —                | —         |
| North Dakota.....   | 46   | 46   | 352,200     | 361,259     | (2.5)   | 35,821           | 37,966    |
| Ohio.....           | 5    | 5    | 5,765,788   | 5,024,784   | 14.7    | 1,038,423        | 929,379   |
| Oklahoma.....       | 24   | 25   | 1,712,492   | 1,678,029   | 2.1     | —                | —         |
| Oregon.....         | 30   | 30   | 1,366,546   | 1,366,267   | —       | —                | —         |
| Pennsylvania.....   | 7    | 7    | 4,733,852   | 4,710,022   | 0.5     | —                | —         |
| Rhode Island.....   | 45   | 43   | 381,057     | 384,987     | (1.0)   | —                | —         |
| South Carolina..... | 26   | 26   | 1,617,864   | 1,829,113   | (11.5)  | 70,525           | 82,454    |
| South Dakota.....   | 43   | 44   | 393,896     | 398,125     | (1.1)   | 60,000           | 56,524    |
| Tennessee.....      | 15   | 15   | 2,613,637   | 2,632,750   | (0.7)   | 246,713          | 373,391   |
| Texas.....          | 2    | 2    | 8,859,492   | 8,749,439   | 1.3     | 247,384          | 216,607   |
| Utah.....           | 37   | 35   | 724,524     | 751,078     | (3.5)   | 485              | 472       |
| Vermont.....        | 49   | 49   | 290,641     | 283,993     | 2.3     | —                | —         |
| Virginia.....       | 12   | 12   | 3,027,842   | 3,024,734   | —       | 161,202          | 251,793   |
| Washington.....     | 17   | 17   | 2,311,131   | 2,316,135   | (0.2)   | 86,847           | 64,169    |
| West Virginia.....  | 34   | 34   | 835,290     | 836,891     | (0.2)   | —                | —         |
| Wisconsin.....      | 19   | 18   | 2,123,146   | 2,122,168   | —       | 80,628           | 47,620    |
| Wyoming.....        | 48   | 48   | 262,113     | 325,692     | (19.5)  | 5,799            | 2,668     |
| Total U.S.....      | —    | —    | 116,498,878 | 115,557,638 | 0.8%    | 6,774,093        | 6,911,871 |

(a) These totals reflect the gross gallonage of gasoline reported for tax purposes by wholesale distributors in each state. The data are taken from state tax reports. The data include highway and non highway use and losses;

(b) These totals show gross gal. of gasohol (ethanol blends) reported by the states. In states where gasohol is taxed at the same rate as gasoline, some gasohol may be commingled with gasoline data. All 1990 totals—gasoline and gasohol—are preliminary 1989 totals are official updates.

Source: Federal Highway Administration, Monthly Gasoline Reports—1990.

# Gasoline Consumption by Months — 1989

(Add 000 gal.)

| State               | Jan.      | Feb.      | Mar.      | Apr.      | May       | June       | July       | Aug.       | Sept.     | Oct.      | Nov.      | Dec.      | Total       |
|---------------------|-----------|-----------|-----------|-----------|-----------|------------|------------|------------|-----------|-----------|-----------|-----------|-------------|
| Alabama.....        | 160,780   | 158,657   | 162,351   | 199,546   | 186,328   | 182,508    | 179,530    | 189,927    | 168,026   | 180,089   | 173,209   | 181,160   | 2,122,111   |
| Alaska.....         | 15,332    | 15,218    | 19,401    | 17,208    | 18,788    | 28,588     | 23,978     | 30,617     | 19,881    | 17,306    | 12,597    | 20,103    | 239,017     |
| Arizona.....        | 137,680   | 151,506   | 131,134   | 141,403   | 168,229   | 149,903    | 139,702    | 139,813    | 133,695   | 161,874   | 147,387   | 142,328   | 1,744,654   |
| Arkansas.....       | 26,575    | 161,461   | 90,121    | 86,151    | 138,995   | 111,534    | 117,567    | 110,762    | 105,719   | 101,272   | 93,716    | 131,126   | 1,274,999   |
| California.....     | 1,100,832 | 985,208   | 1,099,017 | 1,077,273 | 1,062,145 | 1,374,485  | 1,120,700  | 1,164,058  | 1,043,906 | 1,107,661 | 1,086,330 | 1,117,216 | 13,338,831  |
| Colorado.....       | 115,521   | 113,007   | 129,112   | 126,069   | 126,165   | 137,673    | 140,835    | 146,872    | 127,097   | 129,520   | 104,684   | 138,904   | 1,535,459   |
| Connecticut.....    | 110,051   | 103,760   | 117,471   | 111,530   | 120,618   | 119,400    | 115,273    | 118,504    | 113,390   | 117,160   | 114,395   | 125,170   | 1,386,722   |
| Delaware.....       | 25,398    | 25,143    | 28,408    | 28,062    | 49,217    | 12,901     | 31,966     | 26,091     | 32,993    | 31,629    | 26,285    | 31,162    | 349,255     |
| Dist. of Col.....   | 14,231    | 14,368    | 15,793    | 14,942    | 16,708    | 16,206     | 15,408     | 14,892     | 14,476    | 15,944    | 14,796    | 14,909    | 182,673     |
| Florida.....        | 524,060   | 508,553   | 491,680   | 572,743   | 530,893   | 518,467    | 501,647    | 499,300    | 520,171   | 447,460   | 533,775   | 489,143   | 6,138,092   |
| Georgia.....        | 270,090   | 279,645   | 313,033   | 293,620   | 310,802   | 301,717    | 299,380    | 314,728    | 285,619   | 303,803   | 290,648   | 310,789   | 3,573,874   |
| Hawaii.....         | 35,297    | 27,671    | 34,085    | 31,088    | 31,670    | 36,206     | 33,528     | 33,883     | 31,521    | 32,302    | 32,025    | 33,219    | 392,495     |
| Idaho.....          | 38,747    | 33,624    | 36,231    | 27,216    | 42,124    | 41,967     | 34,152     | 50,000     | 47,235    | 50,696    | 44,523    | 43,232    | 489,747     |
| Illinois.....       | 393,639   | 357,693   | 400,263   | 410,135   | 407,322   | 431,104    | 430,436    | 497,830    | 391,161   | 438,383   | 390,400   | 445,297   | 4,993,663   |
| Indiana.....        | 201,357   | 195,907   | 228,632   | 213,548   | 232,821   | 232,821    | 233,100    | 223,142    | 220,643   | 232,552   | 224,802   | 235,773   | 2,675,096   |
| Iowa.....           | 116,237   | 97,349    | 115,238   | 114,980   | 121,703   | 124,632    | 115,509    | 127,813    | 111,134   | 127,619   | 110,433   | 127,304   | 1,409,951   |
| Kansas.....         | 98,875    | 94,559    | 115,473   | 102,848   | 111,362   | 116,347    | 107,373    | 115,124    | 103,687   | 108,709   | 106,683   | 113,191   | 1,294,231   |
| Kentucky.....       | 114,420   | 172,312   | 142,670   | 163,121   | 160,830   | 150,806    | 168,761    | 165,785    | 152,676   | 155,683   | 154,483   | 160,342   | 1,861,889   |
| Louisiana.....      | 169,381   | 155,639   | 184,172   | 174,295   | 169,136   | 171,347    | 172,822    | 188,488    | 142,155   | 181,189   | 161,437   | 173,225   | 2,043,286   |
| Maine.....          | 46,938    | 45,123    | 42,453    | 51,884    | 47,609    | 59,032     | 55,853     | 73,639     | 52,084    | 49,544    | 56,277    | 47,203    | 627,639     |
| Maryland.....       | 169,454   | 158,027   | 201,671   | 170,731   | 190,682   | 190,874    | 185,275    | 183,000    | 166,216   | 180,425   | 182,990   | 178,303   | 2,157,848   |
| Massachusetts.....  | 195,889   | 184,036   | 209,935   | 198,362   | 217,791   | 219,235    | 216,015    | 224,880    | 208,203   | 224,521   | 197,659   | 223,517   | 2,520,043   |
| Michigan.....       | 331,065   | 326,302   | 361,186   | 335,395   | 383,291   | 384,942    | 390,816    | 422,203    | 344,657   | 381,711   | 366,648   | 348,710   | 4,376,926   |
| Minnesota.....      | 133,603   | 176,467   | 167,505   | 158,936   | 183,327   | 186,090    | 187,002    | 168,125    | 192,954   | 192,243   | 139,839   | 216,271   | 2,102,362   |
| Mississippi.....    | 109,671   | 81,047    | 121,659   | 94,146    | 103,607   | 114,730    | 105,403    | 114,944    | 96,779    | 104,883   | 91,717    | 119,700   | 1,258,286   |
| Missouri.....       | 208,272   | 198,832   | 226,492   | 233,040   | 240,546   | 243,377    | 234,357    | 244,310    | 224,427   | 237,319   | 223,913   | 243,498   | 2,758,383   |
| Montana.....        | 29,891    | 26,528    | 35,256    | 32,943    | 37,506    | 43,992     | 45,169     | 47,392     | 39,909    | 37,127    | 34,535    | 33,771    | 444,019     |
| Nebraska.....       | 57,086    | 57,933    | 68,864    | 62,495    | 67,742    | 80,510     | 62,105     | 74,059     | 65,061    | 69,245    | 65,743    | 70,272    | 801,115     |
| Nevada.....         | 49,877    | 48,748    | 45,072    | 53,200    | 50,970    | 54,302     | 54,778     | 57,349     | 58,603    | 54,837    | 54,576    | 51,155    | 633,467     |
| New Hampshire.....  | 41,161    | 38,778    | 43,064    | 39,604    | 44,405    | 45,529     | 48,128     | 49,695     | 42,711    | 45,889    | 41,743    | 46,346    | 527,053     |
| New Jersey.....     | 320,671   | 261,715   | 264,926   | 326,351   | 240,483   | 347,106    | 321,867    | 299,892    | 236,199   | 296,016   | 284,547   | 341,390   | 3,531,163   |
| New Mexico.....     | 43,920    | 82,008    | 67,445    | 69,136    | 69,898    | 72,098     | 72,493     | 68,504     | 68,504    | 70,565    | 67,008    | 68,987    | 820,566     |
| New York.....       | 488,200   | 482,407   | 501,578   | 389,750   | 514,141   | 447,599    | 518,960    | 591,935    | 446,497   | 490,386   | 430,168   | 468,177   | 5,769,798   |
| North Carolina..... | 255,379   | 245,479   | 285,452   | 274,555   | 297,440   | 295,315    | 289,151    | 301,798    | 273,313   | 291,458   | 267,736   | 292,422   | 3,369,466   |
| North Dakota.....   | 17,396    | 30,719    | 25,160    | 31,191    | 31,913    | 34,158     | 33,839     | 37,039     | 31,234    | 30,088    | 27,398    | 31,124    | 361,259     |
| Ohio.....           | 401,543   | 361,464   | 407,962   | 399,477   | 425,000   | 436,370    | 491,517    | 445,572    | 403,751   | 395,489   | 429,059   | 427,580   | 5,024,784   |
| Oklahoma.....       | 102,726   | 138,888   | 134,883   | 130,054   | 139,013   | 136,477    | 152,336    | 153,570    | 146,665   | 142,595   | 138,189   | 163,135   | 1,678,531   |
| Oregon.....         | 62,733    | 123,547   | 101,874   | 117,460   | 117,249   | 83,137     | 163,238    | 131,150    | 118,081   | 100,073   | 129,224   | 118,501   | 1,366,267   |
| Pennsylvania.....   | 354,624   | 340,533   | 391,586   | 382,857   | 406,636   | 405,442    | 403,975    | 422,322    | 394,054   | 408,414   | 391,170   | 408,409   | 4,710,022   |
| Rhode Island.....   | 30,407    | 30,407    | 30,407    | 33,480    | 33,480    | 33,480     | 31,401     | 31,401     | 31,401    | 33,041    | 33,041    | 33,041    | 384,987     |
| South Carolina..... | 127,232   | 140,350   | 158,998   | 150,581   | 157,516   | 157,944    | 162,221    | 164,455    | 144,627   | 155,390   | 143,758   | 166,063   | 1,829,135   |
| South Dakota.....   | 26,643    | 25,682    | 32,506    | 29,498    | 34,158    | 38,955     | 38,793     | 40,249     | 32,870    | 33,602    | 31,588    | 33,571    | 398,115     |
| Tennessee.....      | 212,552   | 209,044   | 216,785   | 221,225   | 233,012   | 204,303    | 238,889    | 219,192    | 214,825   | 218,962   | 207,486   | 236,475   | 2,632,750   |
| Texas.....          | 661,835   | 627,327   | 764,738   | 706,096   | 748,291   | 739,447    | 728,216    | 790,504    | 724,047   | 749,583   | 737,617   | 771,738   | 8,749,439   |
| Utah.....           | 72,394    | 63,264    | 58,945    | 59,388    | 62,178    | 65,738     | 66,785     | 68,172     | 53,042    | 62,565    | 59,008    | 59,541    | 751,020     |
| Vermont.....        | 23,100    | 21,819    | 23,274    | 20,284    | 24,016    | 24,760     | 26,142     | 27,576     | 20,372    | 25,334    | 23,047    | 24,269    | 283,993     |
| Virginia.....       | 246,485   | 202,277   | 250,993   | 259,247   | 259,798   | 276,876    | 240,408    | 297,008    | 241,995   | 276,547   | 242,131   | 248,969   | 3,042,734   |
| Washington.....     | 164,692   | 162,722   | 216,180   | 187,194   | 194,860   | 196,918    | 219,326    | 212,791    | 197,728   | 189,541   | 184,279   | 189,884   | 2,316,135   |
| West Virginia.....  | 66,972    | 60,244    | 67,172    | 74,862    | 61,742    | 79,385     | 76,988     | 70,418     | 65,712    | 76,802    | 53,410    | 83,186    | 836,893     |
| Wisconsin.....      | 156,234   | 157,231   | 173,518   | 156,379   | 184,486   | 185,409    | 189,702    | 200,579    | 172,636   | 183,287   | 173,975   | 188,832   | 2,122,268   |
| Wyoming.....        | 20,798    | 18,977    | 23,255    | 21,870    | 24,823    | 33,532     | 26,162     | 31,196     | 33,812    | 37,276    | 29,314    | 24,903    | 325,918     |
| U.S. Total.....     | 8,897,946 | 8,779,225 | 9,575,279 | 9,377,449 | 9,833,485 | 10,175,647 | 10,059,177 | 10,422,548 | 9,308,154 | 9,775,609 | 9,361,401 | 9,992,516 | 115,558,463 |

This table, based on Federal Highway Administration data, shows gross gallons of gasoline reported by wholesale distributors in each state. The data are taken from state taxation reports and may reflect time lags up to six weeks between the wholesale level and retail sales. The data include highway use, non-highway use, and losses.

Source: Federal Highway Administration, Monthly Gasoline Reports, 1989.

# Gasoline Consumption by Months — 1990

(Add 000 gal.)

| State                | Jan.      | Feb.      | Mar.      | Apr.      | May        | June       | July       | Aug.      | Sept.     | Oct.      | Nov.      | Dec.      | Total       |
|----------------------|-----------|-----------|-----------|-----------|------------|------------|------------|-----------|-----------|-----------|-----------|-----------|-------------|
| Alabama.....         | 165,939   | 154,414   | 186,531   | 177,038   | 189,481    | 183,308    | 186,464    | 191,705   | 161,861   | 177,862   | 173,545   | 172,296   | 2,120,444   |
| Alaska.....          | 14,609    | 13,819    | 15,285    | 15,179    | 51,944     | 26,920     | 28,974     | 26,226    | 23,926    | 20,266    | 18,780    | 18,203    | 274,133     |
| Arizona.....         | 137,580   | 145,211   | 138,086   | 145,949   | 132,623    | 148,067    | 140,193    | 129,330   | 129,330   | 152,291   | 144,595   | 135,215   | 1,678,470   |
| Arkansas.....        | 51,895    | 131,098   | 73,960    | 86,332    | 162,742    | 111,956    | 121,709    | 101,096   | 115,784   | 100,401   | 48,154    | 159,300   | 1,264,427   |
| California.....      | 1,077,869 | 1,028,542 | 1,159,457 | 1,119,390 | 1,138,520  | 1,150,262  | 1,168,326  | 1,159,701 | 1,062,314 | 1,105,746 | 1,068,403 | 1,065,829 | 13,304,359  |
| Colorado.....        | 115,747   | 111,469   | 127,866   | 126,178   | 141,839    | 137,855    | 138,313    | 153,265   | 124,429   | 133,247   | 116,404   | 120,649   | 1,547,261   |
| Connecticut.....     | 114,814   | 109,961   | 125,142   | 111,540   | 126,939    | 126,665    | 123,042    | 132,512   | 114,242   | 120,320   | 120,031   | 120,473   | 1,445,681   |
| Delaware.....        | 25,733    | 25,323    | 28,707    | 29,136    | 50,027     | 11,492     | 31,992     | 33,371    | 27,627    | 28,956    | 27,572    | 27,090    | 346,981     |
| Dist. of Col.*.....  | 15,152    | 13,309    | 15,607    | 14,764    | 14,604     | 14,436     | 14,833     | 15,137    | 14,007    | 14,650    | 14,650    | 14,650    | 175,799     |
| Florida*.....        | 535,235   | 518,116   | 505,269   | 574,248   | 525,085    | 520,778    | 500,919    | 509,899   | 522,195   | 465,047   | 517,679   | 517,679   | 6,212,149   |
| Georgia.....         | 273,834   | 280,655   | 312,408   | 275,671   | 330,619    | 307,471    | 306,617    | 317,506   | 278,013   | 299,760   | 294,924   | 294,138   | 3,571,616   |
| Hawaii.....          | 31,198    | 31,090    | 32,407    | 33,282    | 33,420     | 33,566     | 34,887     | 33,811    | 32,390    | 32,637    | 31,546    | 28,535    | 388,789     |
| Idaho.....           | 38,274    | 35,733    | 33,357    | 33,269    | 41,609     | 37,407     | 40,713     | 45,978    | 46,429    | 56,150    | 42,606    | 40,138    | 491,663     |
| Illinois*.....       | 409,201   | 409,416   | 465,787   | 482,231   | 411,797    | 391,679    | 395,509    | 434,173   | 456,624   | 478,223   | 454,694   | 435,394   | 5,224,728   |
| Indiana.....         | 202,733   | 191,599   | 227,402   | 220,464   | 233,439    | 236,753    | 240,634    | 246,153   | 215,356   | 235,317   | 221,785   | 224,694   | 2,696,329   |
| Iowa.....            | 100,960   | 94,480    | 106,404   | 120,707   | 123,052    | 108,290    | 143,584    | 124,989   | 95,928    | 142,902   | 95,548    | 119,666   | 1,376,510   |
| Kansas.....          | 92,720    | 90,136    | 108,119   | 101,969   | 112,759    | 116,348    | 112,077    | 114,449   | 96,113    | 104,344   | 100,321   | 101,746   | 1,251,101   |
| Kentucky.....        | 116,598   | 153,417   | 143,115   | 168,375   | 170,541    | 161,217    | 156,200    | 174,641   | 146,076   | 157,958   | 148,210   | 154,262   | 1,850,610   |
| Louisiana.....       | 148,827   | 144,675   | 172,589   | 165,975   | 179,173    | 169,984    | 179,806    | 192,053   | 162,263   | 169,473   | 161,399   | 178,238   | 2,024,455   |
| Maine.....           | 51,560    | 37,905    | 54,199    | 42,473    | 52,990     | 54,431     | 60,256     | 60,884    | 50,859    | 52,286    | 42,695    | 50,856    | 611,394     |
| Maryland*.....       | 166,833   | 160,287   | 195,288   | 183,220   | 183,323    | 176,385    | 190,243    | 189,391   | 171,300   | 183,326   | 177,876   | 179,679   | 2,156,151   |
| Massachusetts.....   | 192,408   | 180,927   | 208,209   | 196,130   | 212,614    | 214,062    | 191,813    | 241,377   | 193,879   | 204,467   | 199,116   | 198,951   | 2,433,953   |
| Michigan.....        | 344,302   | 314,697   | 356,277   | 352,822   | 390,339    | 387,353    | 391,303    | 412,546   | 337,977   | 372,412   | 363,925   | 347,100   | 4,371,053   |
| Minnesota.....       | 144,789   | 154,652   | 162,929   | 164,450   | 188,586    | 182,768    | 196,846    | 177,129   | 194,750   | 180,346   | 165,939   | 164,397   | 2,077,581   |
| Mississippi.....     | 94,797    | 92,005    | 115,570   | 99,310    | 118,895    | 107,365    | 108,238    | 115,830   | 94,174    | 108,075   | 106,249   | 104,554   | 1,266,062   |
| Missouri.....        | 208,807   | 198,740   | 230,116   | 218,391   | 252,839    | 245,629    | 249,075    | 250,767   | 220,082   | 235,178   | 228,086   | 214,773   | 2,752,483   |
| Montana*.....        | 28,291    | 28,812    | 34,481    | 33,913    | 38,926     | 43,122     | 49,909     | 36,779    | 36,779    | 36,779    | 36,779    | 36,779    | 441,349     |
| Nebraska.....        | 55,395    | 55,079    | 67,979    | 62,561    | 70,617     | 70,501     | 75,505     | 74,732    | 63,437    | 67,221    | 64,291    | 68,197    | 795,515     |
| Nevada.....          | 51,415    | 50,358    | 46,995    | 54,317    | 52,845     | 50,733     | 61,948     | 58,064    | 62,802    | 53,205    | 53,384    | 55,752    | 651,818     |
| New Hampshire.....   | 39,937    | 38,289    | 40,861    | 39,436    | 42,612     | 43,819     | 47,177     | 50,800    | 41,555    | 43,637    | 40,969    | 41,045    | 510,137     |
| New Jersey*.....     | 302,511   | 228,736   | 328,179   | 284,872   | 239,093    | 375,686    | 309,276    | 247,482   | 291,073   | 348,928   | 295,584   | 295,584   | 3,247,006   |
| New Mexico.....      | 64,960    | 61,351    | 52,175    | 79,562    | 73,298     | 74,773     | 73,021     | 73,841    | 66,990    | 66,520    | 66,798    | 58,140    | 811,429     |
| New York*.....       | 416,589   | 493,195   | 598,764   | 445,437   | 532,657    | 510,463    | 490,484    | 591,929   | 509,934   | 509,934   | 509,934   | 509,934   | 6,112,254   |
| North Carolina.....  | 262,367   | 246,437   | 277,782   | 288,658   | 292,941    | 290,722    | 296,609    | 307,581   | 260,703   | 279,940   | 268,306   | 265,453   | 3,337,499   |
| North Dakota.....    | 19,329    | 27,425    | 23,665    | 32,824    | 29,421     | 33,532     | 36,277     | 38,267    | 29,783    | 29,500    | 28,294    | 23,883    | 352,200     |
| Ohio*.....           | 460,353   | 412,098   | 487,063   | 492,083   | 516,493    | 517,808    | 508,673    | 539,737   | 468,174   | 499,189   | 383,635   | 480,482   | 5,765,788   |
| Oklahoma.....        | 111,163   | 153,225   | 144,039   | 139,945   | 148,103    | 159,462    | 146,128    | 159,863   | 134,289   | 133,199   | 143,742   | 139,334   | 1,712,492   |
| Oregon.....          | 61,604    | 126,720   | 90,311    | 136,149   | 119,973    | 103,397    | 129,325    | 146,157   | 125,192   | 115,784   | 88,293    | 123,641   | 1,366,546   |
| Pennsylvania*.....   | 357,132   | 345,955   | 399,590   | 384,101   | 415,749    | 411,489    | 409,257    | 429,245   | 381,578   | 404,551   | 400,717   | 394,488   | 4,733,852   |
| Rhode Island*.....   | 30,519    | 30,519    | 30,519    | 32,143    | 32,143     | 32,143     | 32,602     | 32,602    | 32,602    | 31,755    | 31,755    | 31,755    | 381,057     |
| South Carolina*..... | 71,096    | 160,712   | 125,946   | 178,544   | 137,573    | 135,151    | 134,837    | 134,837   | 134,837   | 134,837   | 134,837   | 134,837   | 1,617,864   |
| South Dakota.....    | 24,740    | 25,327    | 31,673    | 29,080    | 34,883     | 37,487     | 42,168     | 42,585    | 32,606    | 32,098    | 31,258    | 29,991    | 393,896     |
| Tennessee.....       | 198,980   | 184,285   | 208,243   | 241,257   | 232,365    | 211,570    | 243,649    | 217,877   | 224,550   | 224,501   | 202,317   | 224,043   | 2,613,837   |
| Texas.....           | 714,521   | 677,604   | 776,979   | 741,879   | 781,363    | 789,124    | 769,824    | 781,771   | 694,567   | 720,121   | 704,669   | 707,070   | 8,859,492   |
| Utah.....            | 56,789    | 53,502    | 59,801    | 58,438    | 66,057     | 65,751     | 65,328     | 71,697    | 60,361    | 61,132    | 55,636    | 60,032    | 724,524     |
| Vermont.....         | 20,181    | 27,330    | 22,955    | 20,836    | 24,221     | 24,976     | 27,147     | 28,852    | 23,325    | 25,770    | 22,994    | 22,054    | 290,641     |
| Virginia.....        | 239,963   | 213,565   | 254,201   | 270,852   | 235,290    | 302,746    | 265,177    | 273,380   | 227,481   | 264,404   | 257,535   | 223,248   | 3,027,842   |
| Washington.....      | 175,316   | 160,411   | 202,533   | 185,078   | 202,188    | 200,590    | 214,681    | 220,004   | 193,794   | 195,956   | 185,935   | 174,645   | 2,311,131   |
| West Virginia*.....  | 67,082    | 61,275    | 74,798    | 73,300    | 65,427     | 76,811     | 80,280     | 69,914    | 77,823    | 63,746    | 55,234    | 69,608    | 835,290     |
| Wisconsin*.....      | 156,315   | 152,195   | 168,127   | 166,178   | 187,701    | 187,206    | 200,411    | 206,212   | 171,249   | 172,991   | 177,632   | 176,929   | 2,123,146   |
| Wyoming*.....        | 23,464    | 17,716    | 21,037    | 19,320    | 25,641     | 21,597     | 24,123     | 21,843    | 21,843    | 21,843    | 21,843    | 21,843    | 262,113     |
| U.S. Total.....      | 8,882,426 | 8,853,797 | 9,868,782 | 9,749,256 | 10,167,379 | 10,132,106 | 10,181,364 | 9,360,972 | 9,455,245 | 9,869,181 | 9,347,078 | 9,547,242 | 116,498,878 |

This table, based on Federal Highway Administration data, shows gross gallons of gasoline reported by wholesale distributors in each state. The data are taken from state taxation reports. The data include highway use, non-highway use and losses. As many as 16 states were up to six months late with their reports, so estimates by NPN are included for the states marked with an asterisk.

Source: Federal Highway Administration, Monthly Gasoline Reports 1990, and estimates by NPN for 16 states which were late reporters.

## Gasoline Octanes — U.S. Service Stations

| Year    | Season | Leaded Regular (a) |      |        | Unleaded Regular (b) |      |        | Unleaded Premium (c) |      |        |
|---------|--------|--------------------|------|--------|----------------------|------|--------|----------------------|------|--------|
|         |        | Rsh.               | Mtr. | (R+M)* | Rsh.                 | Mtr. | (R+M)* | Rsh.                 | Mtr. | (R+M)* |
|         |        |                    |      | 2      |                      |      | 2      |                      |      | 2      |
| 1990    | Summer | 93.1               | 84.0 | 88.6   | 92.0                 | 82.8 | 87.4   | 97.4                 | 87.6 | 92.5   |
| 1989-90 | Winter | 93.5               | 83.9 | 88.7   | 91.7                 | 82.6 | 87.2   | 97.3                 | 87.4 | 92.4   |
| 1989    | Summer | 93.3               | 83.8 | 88.6   | 91.9                 | 82.5 | 87.2   | 97.4                 | 87.2 | 92.3   |
| 1988-89 | Winter | 93.1               | 83.7 | 88.4   | 91.6                 | 82.6 | 87.2   | 97.0                 | 87.2 | 92.1   |
| 1988    | Summer | 93.3               | 83.7 | 88.5   | 92.2                 | 82.7 | 87.5   | 97.0                 | 86.8 | 91.9   |
| 1987-88 | Winter | 93.1               | 84.2 | 88.7   | 91.9                 | 82.9 | 87.4   | 96.7                 | 87.0 | 91.9   |
| 1987    | Summer | 93.3               | 84.0 | 88.7   | 92.0                 | 82.7 | 87.4   | 96.8                 | 86.8 | 91.8   |
| 1986-87 | Winter | 93.1               | 84.2 | 88.7   | 91.7                 | 82.7 | 87.2   | 96.7                 | 86.9 | 91.8   |
| 1986    | Summer | 93.3               | 84.3 | 88.8   | 92.0                 | 82.7 | 87.3   | 96.7                 | 86.7 | 91.7   |
| 1985-86 | Winter | 93.0               | 84.5 | 88.8   | 91.8                 | 82.8 | 87.3   | 96.8                 | 86.9 | 91.8   |
| 1985    | Summer | 92.8               | 84.8 | 88.8   | 91.9                 | 82.8 | 87.4   | 96.5                 | 86.8 | 91.7   |
| 1984-85 | Winter | 92.8               | 85.2 | 89.1   | 91.8                 | 82.9 | 87.4   | 96.4                 | 86.8 | 91.6   |
| 1984    | Summer | 92.9               | 85.0 | 89.0   | 91.6                 | 82.9 | 87.3   | 96.5                 | 86.9 | 91.7   |
| 1983-84 | Winter | 92.7               | 84.9 | 88.8   | 91.7                 | 82.9 | 87.3   | 96.1                 | 86.6 | 91.3   |
| 1983    | Summer | 93.1               | 84.9 | 89.0   | 92.0                 | 82.9 | 87.5   | 96.4                 | 86.5 | 91.4   |
| 1982-83 | Winter | 92.9               | 85.2 | 89.1   | 91.7                 | 82.9 | 87.3   | 96.3                 | 86.7 | 91.5   |
| 1982    | Summer | 93.0               | 85.0 | 89.0   | 91.9                 | 82.8 | 87.3   | 96.8                 | 86.6 | 91.7   |
| 1981-82 | Winter | 92.7               | 81.1 | 88.9   | 91.8                 | 82.9 | 87.4   | 96.6                 | 85.8 | 91.7   |
| 1981    | Summer | 92.8               | 85.1 | 89.0   | 91.9                 | 83.0 | 87.4   | 96.3                 | 86.2 | 91.3   |

(a) Below 93 octane;

(b) Below 90 octane;

(c) 90 octane and above.

\* Antiknock index.

Source: Motor Gasolines, Summer 1990, National Institute for Petroleum and Energy Research, Bartlesville, Oklahoma, published February 1991.

## Regional Octane Averages — Summer 1990 (a)

| Region                                       | Leaded Regular (b) |             |             | Unleaded Regular (c) |             |             | Unleaded Premium (d) |             |             | Alcohol-Blended Premium (e) |             |             |
|----------------------------------------------|--------------------|-------------|-------------|----------------------|-------------|-------------|----------------------|-------------|-------------|-----------------------------|-------------|-------------|
|                                              | Rsh.               | Mtr.        | (R+M)*      | Rsh.                 | Mtr.        | (R+M)*      | Rsh.                 | Mtr.        | (R+M)*      | Rsh.                        | Mtr.        | (R+M)*      |
|                                              |                    |             | 2           |                      |             | 2           |                      |             | 2           |                             |             | 2           |
| Northeast.....                               | 92.1               | 82.5        | 87.3        | 94.3                 | 84.2        | 89.3        | 97.9                 | 87.5        | 92.7        | —                           | —           | —           |
| Mid-Atlantic Coast .....                     | 92.2               | 82.5        | 87.4        | 94.2                 | 84.5        | 89.4        | 97.9                 | 87.7        | 92.8        | —                           | —           | —           |
| Southeast.....                               | 92.0               | 82.7        | 87.4        | 94.2                 | 84.5        | 89.3        | 97.6                 | 87.8        | 92.7        | 96.4                        | 85.8        | 91.1        |
| Florida .....                                | 91.9               | 82.7        | 87.3        | 94.1                 | 84.5        | 89.3        | 97.9                 | 88.0        | 93.0        | —                           | —           | —           |
| North Central .....                          | 91.9               | 82.7        | 87.3        | 93.6                 | 84.5        | 89.1        | 97.0                 | 88.1        | 92.6        | 97.4                        | 87.5        | 92.5        |
| Ohio Valley .....                            | 91.9               | 82.8        | 87.4        | 93.8                 | 84.7        | 89.3        | 97.3                 | 87.8        | 92.6        | 97.0                        | 86.8        | 91.9        |
| Central and<br>Upper Plains.....             | 91.6               | 82.8        | 87.2        | 93.6                 | 84.7        | 89.2        | 96.5                 | 87.5        | 92.0        | 95.8                        | 85.7        | 90.7        |
| Oklahoma and<br>East Texas .....             | 92.1               | 82.7        | 87.4        | 94.1                 | 84.4        | 89.3        | 97.3                 | 87.6        | 92.5        | 97.8                        | 87.3        | 92.6        |
| West Southwest .....                         | 92.0               | 83.0        | 87.5        | 94.1                 | 84.7        | 89.4        | 97.5                 | 87.2        | 92.4        | 96.8                        | 86.6        | 91.7        |
| Pacific Northwest .....                      | 91.9               | 82.9        | 87.4        | 94.0                 | 83.8        | 89.0        | 97.2                 | 87.5        | 92.4        | —                           | —           | —           |
| North California and<br>and North Nevada.... | 92.0               | 82.9        | 87.5        | 93.9                 | 83.8        | 88.9        | 97.1                 | 87.1        | 92.1        | —                           | —           | —           |
| South California.....                        | 91.0               | 82.9        | 87.4        | 94.0                 | 84.1        | 89.0        | 97.6                 | 87.2        | 92.4        | 98.2                        | 87.2        | 92.7        |
| <b>Average.....</b>                          | <b>92.0</b>        | <b>82.6</b> | <b>87.4</b> | <b>94.0</b>          | <b>84.4</b> | <b>89.2</b> | <b>97.4</b>          | <b>87.6</b> | <b>92.5</b> | <b>97.1</b>                 | <b>86.7</b> | <b>91.9</b> |

(a) Leaded octane data were dropped in 1989 and a new set of figures dealing with unleaded midgrade gasoline were added;

(b) Below 88 octane;

(c) 88.0 to 89.9 octane;

(d) 90 octane and above;

(e) 90 octane and above, blended.

NB: Regions were reduced from 17 to 12 by The API Products Committee in 1989.

Source: Motor Gasolines, Summer 1990, National Institute for Petroleum and Energy Research, Bartlesville, Oklahoma, published February 1991.



## Leaded Gasoline: Not Long for This World

Leaded gasoline is hurtling into oblivion more rapidly than had been anticipated. At the end of 1990, its "holding" on the motor fuel marketplace declined to 5.4% and in the early months of this year it had decreased further to less than 5%. It is believed that within the next year or two it will have disappeared from virtually all conventional service stations where it once dominated everything in sight.

Although distribution and sales of unleaded gasolines averaged 7,213,000 b/d in 1990, they fell below the 1989 high of 7,328,000 b/d. The all-time high was 7,336,000 b/d in 1988. The peak summer month for unleaded consumption was June 1989, when motorists bought an average of 7,780,000 b/d. Last summer, the peak month was August—7,771,000 b/d.

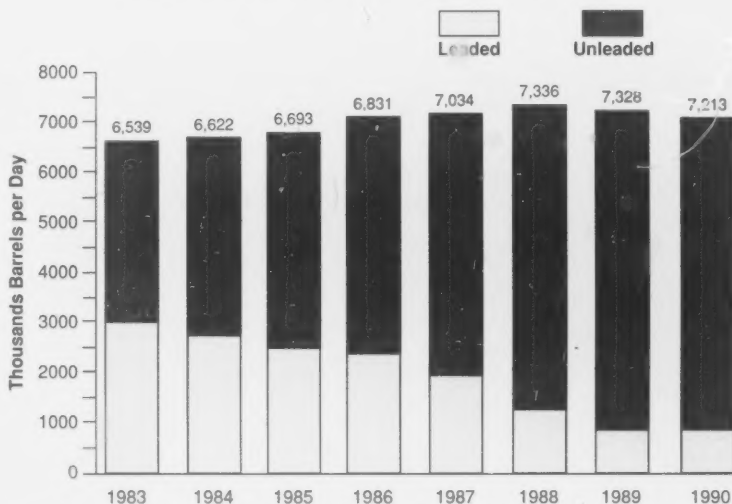
Unleaded gasoline became a way of life for motorists in 1978 when the federal government prescribed it as a means of minimizing noxious leaded gasoline fumes in the atmosphere. In the early days it was lucky to get as many as one out of every four gallons sold. By 1981, however, unleaded volumes were two-to-one over leaded. At the beginning of this decade, the gap had widened to close to the breaking

point. In 1990, six out of every seven gallons of gasoline distributed to motorists were unleaded fuels.

A new era is dawning, however.

Reformulated fuels, alcohol fuels, natural gas, and liquefied petroleum gases are being stressed as the way to go to cope with environmental problems.

Unleaded vs. Leaded Motor Gasoline, 1982-1990



Source: Energy Information Administration, Petroleum Supply Monthly, April 1991

## Gasoline Consumption by Rank—1990

| Rank                 |      |      | Gallons<br>(Add 000) | Rank                |      |      | Gallons<br>(Add 000) |
|----------------------|------|------|----------------------|---------------------|------|------|----------------------|
| State                | 1990 | 1989 |                      | State               | 1990 | 1989 |                      |
| California .....     | 1    | 1    | 13,304,359           | Colorado .....      | 27   | 27   | 1,547,281            |
| Texas .....          | 2    | 2    | 8,859,492            | Connecticut .....   | 28   | 28   | 1,455,681            |
| Florida .....        | 3    | 3    | 6,212,149            | Iowa .....          | 29   | 29   | 1,367,510            |
| New York .....       | 4    | 4    | 6,122,254            | Oregon .....        | 30   | 30   | 1,366,546            |
| Ohio .....           | 5    | 5    | 5,765,588            | Mississippi .....   | 31   | 33   | 1,265,062            |
| Illinois .....       | 6    | 6    | 5,224,728            | Arkansas .....      | 32   | 32   | 1,264,427            |
| Pennsylvania .....   | 7    | 7    | 4,733,852            | Kansas .....        | 33   | 31   | 1,251,101            |
| Michigan .....       | 8    | 8    | 4,371,053            | West Virginia ..... | 34   | 34   | 835,290              |
| Georgia .....        | 9    | 10   | 3,571,616            | New Mexico .....    | 35   | 36   | 811,429              |
| North Carolina ..... | 10   | 11   | 3,337,499            | Nebraska .....      | 36   | 37   | 795,515              |
| New Jersey .....     | 11   | 9    | 3,247,006            | Utah .....          | 37   | 35   | 724,524              |
| Virginia .....       | 12   | 12   | 3,027,842            | Nevada .....        | 38   | 39   | 651,818              |
| Missouri .....       | 13   | 13   | 2,752,483            | Maine .....         | 39   | 38   | 611,394              |
| Indiana .....        | 14   | 14   | 2,696,329            | New Hampshire ..... | 40   | 40   | 510,137              |
| Tennessee .....      | 15   | 15   | 2,613,637            | Idaho .....         | 41   | 41   | 491,663              |
| Massachusetts .....  | 16   | 16   | 2,433,953            | Montana .....       | 42   | 42   | 441,349              |
| Washington .....     | 17   | 17   | 2,311,131            | South Dakota .....  | 43   | 44   | 393,896              |
| Maryland .....       | 18   | 18   | 2,156,151            | Hawaii .....        | 44   | 43   | 388,769              |
| Wisconsin .....      | 19   | 19   | 2,123,146            | Rhode Island .....  | 45   | 45   | 381,057              |
| Alabama .....        | 20   | 20   | 2,122,444            | North Dakota .....  | 46   | 46   | 352,200              |
| Minnesota .....      | 21   | 21   | 2,077,581            | Delaware .....      | 47   | 47   | 346,981              |
| Louisiana .....      | 22   | 22   | 2,024,455            | Vermont .....       | 48   | 49   | 290,641              |
| Kentucky .....       | 23   | 23   | 1,850,610            | Wyoming .....       | 49   | 48   | 262,113              |
| Oklahoma .....       | 24   | 26   | 1,712,492            | Alaska .....        | 50   | 50   | 274,133              |
| Arizona .....        | 25   | 25   | 1,678,470            | Dist. of Col. ....  | -    | -    | 175,799              |
| South Carolina ..... | 26   | 24   | 1,617,864            |                     |      |      |                      |

a) Preliminary with some estimates by NPN for 16 late reporting states.  
Source: Federal Highway Administration, Monthly Gasoline Reports 1990.

# Gasohol Consumption by States — 1989

(Add 000 gal.)

| State                  | Jan.           | Feb.           | Mar.           | Apr.           | May            | June           | July           | Aug.           | Sept.          | Oct.           | Nov.           | Dec.           | Total            |
|------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|------------------|
| Alabama.....           | 29,892         | 27,949         | 14,590         | 16,629         | 13,945         | 11,532         | 12,237         | 13,149         | 12,538         | 14,996         | 13,996         | 14,272         | 195,725          |
| Alaska.....            | —              | 9              | 3              | —              | —              | —              | —              | —              | —              | —              | —              | —              | 12               |
| Arizona.....           | —              | —              | —              | —              | —              | —              | —              | —              | —              | —              | —              | —              | —                |
| Arkansas.....          | —              | —              | —              | —              | —              | —              | —              | —              | —              | —              | —              | —              | —                |
| California.....        | 37,316         | 30,512         | 33,507         | 28,644         | 30,799         | 27,268         | 31,649         | 31,985         | 32,335         | 31,484         | 25,896         | 27,790         | 369,185          |
| Colorado.....          | 5,024          | 5,613          | 6,338          | 4,695          | 5,377          | 4,613          | 4,106          | 5,763          | 3,135          | 14,699         | 1,822          | 9,337          | 70,522           |
| Connecticut.....       | —              | —              | —              | —              | —              | —              | —              | —              | —              | —              | —              | —              | —                |
| Delaware.....          | —              | —              | —              | —              | —              | —              | —              | —              | —              | —              | —              | —              | —                |
| Dist. of Col. ....     | 17             | 30             | 32             | 30             | 33             | 38             | 40             | 22             | —              | 45             | 32             | 14             | 333              |
| Florida.....           | 7,485          | 6,799          | 6,592          | 8,359          | 7,226          | 7,022          | 6,431          | 5,928          | 5,816          | 5,242          | 5,503          | 5,254          | 77,857           |
| Georgia.....           | 1,751          | 1,854          | 2,257          | 2,642          | 2,114          | 2,008          | 2,278          | 2,952          | 2,586          | 2,954          | 3,098          | 3,771          | 30,265           |
| Hawaii.....            | —              | —              | —              | —              | —              | —              | —              | —              | —              | —              | —              | —              | —                |
| Idaho.....             | 4,069          | 5,561          | 5,263          | 3,520          | 6,377          | 2,275          | 3,841          | 8,424          | 6,814          | 6,084          | 6,288          | 6,314          | 64,830           |
| Illinois.....          | 102,262        | 95,096         | 110,069        | 103,186        | 113,755        | 104,282        | 108,231        | 108,372        | 102,562        | 108,729        | 106,750        | 115,223        | 1,278,517        |
| Indiana.....           | 48,575         | 48,575         | 48,575         | 55,246         | 55,246         | 55,246         | 48,310         | 48,310         | 48,310         | 51,309         | 51,309         | 51,309         | 610,320          |
| Iowa.....              | 36,460         | 27,468         | 31,942         | 31,831         | 33,302         | 31,726         | 32,826         | 33,028         | 29,085         | 31,985         | 30,408         | 35,930         | 385,991          |
| Kansas.....            | 11,507         | 10,714         | 9,889          | 8,965          | 8,462          | 7,584          | 7,044          | 7,232          | 6,567          | 6,634          | 6,657          | 7,589          | 98,844           |
| Kentucky.....          | 38,067         | 36,893         | 42,228         | 39,063         | 32,479         | 28,526         | 33,485         | 31,966         | 33,016         | 32,067         | 31,944         | 24,125         | 403,859          |
| Louisiana.....         | 3,303          | 4,252          | 3,506          | 4,192          | 4,034          | 10,525         | 3,245          | 3,384          | 3,787          | 2,870          | 5,633          | 3,967          | 52,688           |
| Maine.....             | —              | —              | —              | —              | —              | —              | —              | —              | —              | —              | —              | —              | —                |
| Maryland.....          | —              | —              | —              | —              | —              | —              | —              | —              | —              | —              | —              | —              | —                |
| Massachusetts.....     | —              | —              | —              | —              | —              | —              | —              | —              | —              | —              | —              | —              | —                |
| Michigan.....          | 35,340         | 33,868         | 39,969         | 35,466         | 39,824         | 26,921         | 33,209         | 34,545         | 29,916         | 31,288         | 31,766         | 30,602         | 402,714          |
| Minnesota.....         | 10,456         | 14,706         | 13,731         | 13,394         | 14,909         | 14,340         | 14,504         | 14,369         | 12,766         | 15,340         | 13,809         | 18,175         | 170,499          |
| Mississippi.....       | —              | —              | —              | —              | —              | —              | —              | —              | —              | —              | —              | —              | —                |
| Missouri.....          | 13,088         | 13,088         | 13,088         | 13,088         | 13,088         | 13,088         | 13,088         | 13,088         | 13,088         | 13,088         | 13,088         | 13,088         | 157,056          |
| Montana.....           | 2              | —              | 3              | 16             | 4              | 17             | 5              | 1              | 5              | 9              | 3              | 15             | 80               |
| Nebraska.....          | 19,720         | 20,230         | 23,387         | 20,465         | 22,971         | 24,628         | 21,939         | 24,133         | 22,174         | 22,734         | 23,763         | 24,938         | 271,082          |
| Nevada.....            | 3,932          | 3,499          | 3,375          | 3,184          | 2,966          | 2,897          | 2,511          | 2,632          | 2,443          | 2,495          | 2,559          | 4,849          | 37,342           |
| New Hampshire.....     | —              | —              | —              | —              | —              | —              | —              | —              | —              | —              | —              | —              | —                |
| New Jersey.....        | —              | —              | —              | —              | —              | —              | —              | —              | —              | —              | —              | —              | —                |
| New Mexico.....        | 7,871          | 20,580         | 15,242         | 14,475         | 13,669         | 11,921         | 12,699         | 12,134         | 12,134         | 13,563         | 16,175         | 20,834         | 171,297          |
| New York.....          | —              | —              | —              | —              | —              | —              | —              | —              | —              | —              | —              | —              | —                |
| North Carolina.....    | —              | —              | —              | —              | —              | —              | —              | —              | —              | —              | —              | —              | —                |
| North Dakota.....      | 2,221          | 4,024          | 3,219          | 3,156          | 3,277          | 3,727          | 3,153          | 3,146          | 2,860          | 3,156          | 2,804          | 3,223          | 37,966           |
| Ohio.....              | 73,350         | 68,756         | 74,637         | 76,398         | 80,773         | 79,020         | 77,120         | 78,894         | 77,742         | 77,451         | 82,825         | 80,413         | 929,379          |
| Oklahoma.....          | —              | —              | —              | —              | —              | —              | —              | —              | —              | —              | —              | —              | —                |
| Oregon.....            | —              | —              | —              | —              | —              | —              | —              | —              | —              | —              | —              | —              | —                |
| Pennsylvania.....      | —              | —              | —              | —              | —              | —              | —              | —              | —              | —              | —              | —              | —                |
| Rhode Island.....      | —              | —              | —              | —              | —              | —              | —              | —              | —              | —              | —              | —              | —                |
| South Carolina.....    | 5,093          | 5,187          | 6,489          | 6,153          | 6,124          | 5,277          | 6,643          | 8,131          | 7,569          | 8,861          | 8,030          | 8,897          | 82,454           |
| South Dakota.....      | 4,102          | 4,236          | 5,056          | 4,535          | 5,038          | 5,308          | 5,160          | 5,258          | 4,475          | 4,311          | 4,218          | 4,817          | 56,524           |
| Tennessee.....         | 34,016         | 46,652         | 50,299         | 57,613         | 45,207         | 34,912         | 24,440         | 23,474         | 22,310         | 9,998          | 11,361         | 13,109         | 373,391          |
| Texas.....             | 41,607         | 15,000         | 15,000         | 15,000         | 15,000         | 15,000         | 15,000         | 15,000         | 15,000         | 15,000         | 20,000         | 20,000         | 216,607          |
| Utah.....              | 69             | 35             | 60             | 43             | —              | 48             | —              | 41             | 50             | 42             | 42             | 42             | 472              |
| Vermont.....           | —              | —              | —              | —              | —              | —              | —              | —              | —              | —              | —              | —              | —                |
| Virginia.....          | 22,352         | 18,211         | 21,654         | 21,077         | 19,920         | 24,139         | 20,742         | 20,904         | 19,446         | 21,044         | 20,115         | 22,189         | 251,793          |
| Washington.....        | 3,945          | 4,420          | 5,423          | 5,301          | 5,118          | 5,405          | 5,180          | 5,417          | 5,256          | 5,008          | 5,512          | 8,184          | 64,169           |
| West Virginia.....     | —              | —              | —              | —              | —              | —              | —              | —              | —              | —              | —              | —              | —                |
| Wisconsin.....         | 3,773          | 3,256          | 4,313          | 2,436          | 3,217          | 3,646          | 3,615          | 6,326          | 2,075          | 5,291          | 3,974          | 5,698          | 47,620           |
| Wyoming.....           | 7              | 5              | 6              | 6              | 5              | 5              | 301            | 358            | 381            | 427            | 622            | 545            | 2,668            |
| <b>U.S. Total.....</b> | <b>806,872</b> | <b>577,078</b> | <b>609,752</b> | <b>600,808</b> | <b>604,259</b> | <b>562,944</b> | <b>553,032</b> | <b>568,366</b> | <b>536,241</b> | <b>558,204</b> | <b>550,002</b> | <b>584,513</b> | <b>6,911,850</b> |

This table, prepared by the Federal Highway Administration, shows gross gallons of gasohol (ethanol blends) reported by the various states. The data were obtained from the state taxation reports. In states where gasohol is taxed at the same rate as gasoline, some gasohol gallonage may be commingled with gasoline data. This report indicates there was a decrease in gasohol sales in 1989.

Source: Federal Highway Administration, Monthly Gasoline Reports, 1989.

# Gasohol Consumption by States — 1990

(Add 000 gal.)

| State               | Jan.    | Feb.    | Mar.    | Apr.    | May     | June    | July    | Aug.    | Sept.   | Oct.    | Nov.    | Dec.    | Total     |
|---------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|-----------|
| Alabama.....        | 13,974  | 10,483  | 24,589  | 16,826  | 22,507  | 11,267  | 18,883  | 10,304  | 8,422   | 22,048  | 20,340  | 18,213  | 197,856   |
| Alaska.....         | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —         |
| Arizona.....        | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —         |
| Arkansas.....       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —         |
| California.....     | 28,155  | 26,876  | 30,978  | 29,052  | 28,267  | 36,868  | 31,558  | 37,059  | 48,421  | 57,541  | 60,382  | 64,559  | 479,716   |
| Colorado.....       | 7,168   | 6,970   | 4,763   | 6,299   | 8,387   | 6,522   | 6,356   | 7,032   | 6,309   | 13,212  | 11,837  | 12,408  | 97,263    |
| Connecticut.....    | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —         |
| Delaware.....       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —         |
| Dist. of Col. ....  | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —         |
| Florida.....        | 6,177   | 6,069   | 5,860   | 6,782   | 5,388   | 6,742   | 6,793   | 6,904   | 15,989  | 5,126   | 7,283   | 7,283   | 87,396    |
| Georgia.....        | 3,096   | 3,035   | 5,869   | 9,270   | 9,390   | 9,229   | 9,656   | 8,227   | 7,518   | 7,584   | 7,507   | 7,291   | 88,672    |
| Hawaii.....         | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —         |
| Idaho.....          | 4,086   | 6,172   | 5,194   | 5,326   | 6,576   | 3,886   | 5,595   | 6,716   | 6,688   | 7,085   | 6,222   | 5,828   | 69,374    |
| Illinois.....       | 95,196  | 94,637  | 109,639 | 102,247 | 118,759 | 115,200 | 116,368 | 117,966 | 106,239 | 97,625  | 97,625  | 97,625  | 1,269,126 |
| Indiana.....        | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —         |
| Iowa.....           | 30,311  | 28,024  | 29,762  | 34,474  | 31,971  | 27,530  | 34,416  | 30,032  | 26,321  | 36,912  | 28,857  | 36,287  | 374,897   |
| Kansas.....         | 7,079   | 7,042   | 8,071   | 7,264   | 6,664   | 5,972   | 5,939   | 5,496   | 4,746   | 5,137   | 4,929   | 5,632   | 73,971    |
| Kentucky.....       | 20,954  | 32,955  | 34,322  | 31,238  | 31,429  | 25,097  | 33,622  | 29,471  | 26,770  | 34,405  | 20,517  | 35,207  | 355,987   |
| Louisiana.....      | 1,973   | 4,593   | 3,147   | 1,981   | 2,341   | 2,476   | 2,845   | 2,232   | 3,890   | 4,409   | 3,674   | 5,199   | 38,760    |
| Maine.....          | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —         |
| Maryland.....       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —         |
| Massachusetts.....  | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —         |
| Michigan.....       | 27,547  | 30,296  | 37,623  | 36,038  | 44,663  | 45,138  | 48,742  | 48,712  | 46,731  | 39,867  | 49,572  | 55,518  | 510,447   |
| Minnesota.....      | 13,853  | 15,505  | 17,593  | 18,678  | 20,805  | 20,312  | 20,511  | 22,122  | 20,521  | 23,764  | 24,410  | 26,262  | 244,336   |
| Mississippi.....    | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —         |
| Missouri.....       | 20,453  | 20,453  | 20,453  | 20,453  | 20,453  | 20,453  | 20,453  | 20,453  | 20,453  | 20,453  | 20,453  | 20,453  | 245,436   |
| Montana.....        | 61      | 25      | 4       | 3       | 26      | 24      | 16      | 31      | 31      | 31      | 31      | 31      | 314       |
| Nebraska.....       | 21,814  | 21,031  | 25,068  | 23,364  | 25,845  | 25,281  | 26,059  | 25,319  | 25,783  | 26,764  | 25,123  | 29,181  | 300,632   |
| Nevada.....         | 5,661   | 5,601   | 4,632   | 2,600   | 2,829   | 2,146   | 3,764   | 2,973   | 2,837   | 4,347   | 5,674   | 6,103   | 49,167    |
| New Hampshire.....  | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —         |
| New Jersey.....     | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —         |
| New Mexico.....     | 19,900  | 16,477  | 10,509  | 15,079  | 13,361  | 12,304  | 7,007   | 10,381  | 8,512   | 9,607   | 16,843  | 16,955  | 156,935   |
| New York.....       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —         |
| North Carolina..... | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —         |
| North Dakota.....   | 2,501   | 2,464   | 2,832   | 2,933   | 2,911   | 3,006   | 3,187   | 3,244   | 2,883   | 3,066   | 3,337   | 3,457   | 35,821    |
| Ohio.....           | 76,424  | 73,495  | 85,138  | 84,163  | 89,718  | 92,009  | 88,838  | 95,308  | 84,279  | 91,427  | 91,089  | 86,535  | 1,038,423 |
| Oklahoma.....       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —         |
| Oregon.....         | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —         |
| Pennsylvania.....   | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —         |
| Rhode Island.....   | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —         |
| South Carolina..... | 8,195   | 7,447   | 6,015   | 4,611   | 4,598   | 4,397   | 5,877   | 5,877   | 5,877   | 5,877   | 5,877   | 5,877   | 70,525    |
| South Dakota.....   | 3,843   | 3,642   | 4,383   | 3,959   | 4,721   | 4,417   | 4,839   | 5,119   | 4,994   | 5,808   | 6,620   | 7,655   | 60,000    |
| Tennessee.....      | 11,750  | 565     | 16,036  | 12,184  | 19,590  | 27,339  | 40,172  | —       | 3,815   | 54,045  | 33,492  | 27,725  | 246,713   |
| Texas.....          | 20,000  | 20,000  | 20,000  | 20,000  | 20,000  | 20,000  | 24,552  | 22,280  | 19,795  | 20,523  | 20,083  | 20,151  | 247,384   |
| Utah.....           | 42      | 33      | 50      | 42      | 42      | 58      | 34      | 42      | 41      | 25      | 42      | 34      | 485       |
| Vermont.....        | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —         |
| Virginia.....       | 20,646  | 17,747  | 18,667  | 9,480   | 13,080  | 14,589  | 10,202  | 11,649  | 9,437   | 11,924  | 12,446  | 11,365  | 161,202   |
| Washington.....     | 5,449   | 5,414   | 6,683   | 6,833   | 7,802   | 7,526   | 8,441   | 8,210   | 7,568   | 8,450   | 7,303   | 7,168   | 86,847    |
| West Virginia.....  | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —         |
| Wisconsin.....      | 1,732   | 3,769   | 7,398   | 6,886   | 4,703   | 7,720   | 10,390  | 7,559   | 7,027   | 11,134  | 5,591   | 6,719   | 80,628    |
| Wyoming.....        | 371     | 420     | 442     | 447     | 445     | 314     | 460     | 580     | 580     | 580     | 580     | 580     | 5,799     |
| U.S. Total.....     | 478,411 | 471,240 | 546,720 | 518,512 | 568,241 | 557,822 | 595,575 | 651,299 | 532,447 | 628,776 | 597,749 | 627,301 | 6,774,093 |

This table, prepared by Federal Highway Administration, shows gross gallons of gasohol (ethanol blends) reported by the various states. The data are obtained from the state taxation reports. In states where gasohol is taxed at the same rate as gasoline, some gasohol gallonage may be commingled with gasoline data. At any rate, this is a preliminary report and upward revisions may be expected on the basis of later data. This report indicates there was an increase in 1990.

Source: Federal Highway Administration, Monthly Gasoline Reports 1990, and some state estimates by NPN.

# Diesel Fuel Consumption by States — 1990

(Add 000 gal.)

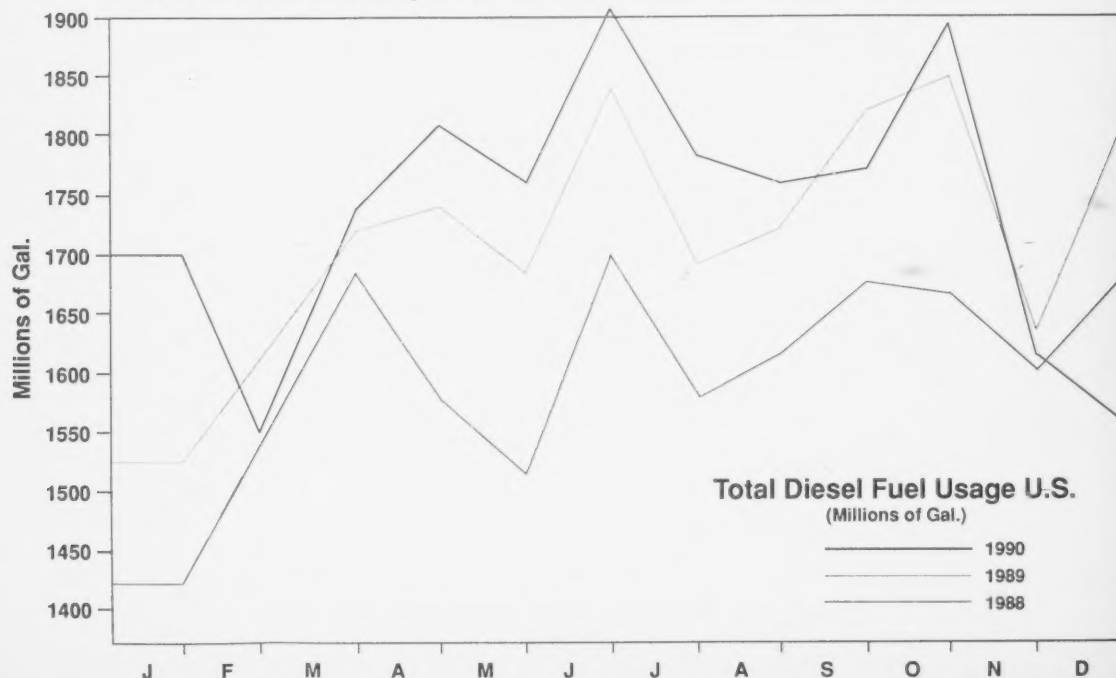
| State         | Rank |      | Gallage   |           | %      | State             | Rank |      | Gallage           |                   | %          |
|---------------|------|------|-----------|-----------|--------|-------------------|------|------|-------------------|-------------------|------------|
|               | 1990 | 1989 | 1990 (a)  | 1989      |        |                   | 1990 | 1989 | 1990 (a)          | 1989              |            |
| Alabama       | 13   | 14   | 571,090   | 545,810   | 4.6    | Montana           | 42   | 41   | 122,855           | 120,918           | 1.6        |
| Alaska        | 38   | 42   | 153,977   | 97,588    | 57.8   | Nebraska          | 32   | 32   | 220,951           | 210,723           | 4.9        |
| Arizona       | 27   | 27   | 317,051   | 325,695   | (2.7)  | Nevada            | 40   | 38   | 134,841           | 132,607           | 1.7        |
| Arkansas      | 20   | 19   | 388,413   | 388,013   | 0.5    | New Hampshire     | 46   | 46   | 52,430            | 60,266            | (13.0)     |
| California    | 1    | 1    | 1,823,056 | 1,944,331 | (6.2)  | New Jersey        | 18   | 18   | 412,177           | 455,359           | (9.5)      |
| Colorado      | 33   | 35   | 219,742   | 187,715   | 17.1   | New Mexico        | 31   | 33   | 222,638           | 208,354           | 6.9        |
| Connecticut   | 34   | 31   | 203,803   | 260,408   | (24.6) | New York          | 6    | 10   | 920,649           | 783,206           | 17.5       |
| Delaware      | 45   | 45   | 53,266    | 74,966    | (28.9) | North Carolina    | 10   | 12   | 627,675           | 621,760           | 1.0        |
| Dist. of Col. | —    | —    | 22,833    | 23,337    | (2.2)  | North Dakota      | 44   | 44   | 93,127            | 93,429            | (0.3)      |
| Florida       | 7    | 5    | 880,935   | 901,109   | (2.2)  | Ohio              | 4    | 4    | 947,458           | 1,031,041         | (8.1)      |
| Georgia       | 8    | 6    | 867,437   | 847,733   | 2.3    | Oklahoma          | 21   | 20   | 383,610           | 397,978           | (3.6)      |
| Hawaii        | 49   | 49   | 25,796    | 24,586    | 4.9    | Oregon            | (b)  | (b)  | (b)               | 315,540           | —          |
| Idaho         | 41   | 40   | 124,977   | 118,634   | 5.3    | Pennsylvania      | 5    | 3    | 936,341           | 926,707           | 1.0        |
| Illinois      | 3    | 7    | 1,035,971 | 1,069,113 | (3.1)  | Rhode Island      | 48   | 47   | 40,557            | 53,559            | (24.3)     |
| Indiana       | 9    | 8    | 812,151   | 736,627   | 10.3   | South Carolina    | 19   | 28   | 394,404           | 306,197           | (28.8)     |
| Iowa          | 24   | 24   | 345,685   | 354,022   | (2.4)  | South Dakota      | 43   | 43   | 100,901           | 93,765            | 7.6        |
| Kansas        | 29   | 30   | 304,377   | 308,517   | (1.3)  | Tennessee         | 11   | 13   | 607,876           | 590,189           | 2.9        |
| Kentucky      | 16   | 9    | 485,342   | 515,438   | (5.8)  | Texas             | 2    | 2    | 1,402,129         | 1,403,460         | —          |
| Louisiana     | 22   | 21   | 378,792   | 390,106   | (2.9)  | Utah              | 35   | 39   | 180,928           | 126,666           | 42.3       |
| Maine         | 37   | 34   | 170,252   | 182,788   | (6.9)  | Vermont           | 47   | 48   | 41,937            | 46,798            | (10.4)     |
| Maryland      | 28   | 23   | 304,942   | 355,307   | (15.0) | Virginia          | 14   | 15   | 546,922           | 576,651           | (5.2)      |
| Massachusetts | 30   | 30   | 263,064   | 273,086   | (3.7)  | Washington        | 23   | 22   | 363,028           | 382,586           | (5.1)      |
| Michigan      | 15   | 16   | 534,549   | 535,470   | (0.2)  | West Virginia     | 39   | 37   | 152,762           | 183,065           | (16.6)     |
| Minnesota     | 25   | 25   | 334,510   | 335,551   | (0.3)  | Wisconsin         | 17   | 17   | 449,589           | 455,089           | (1.2)      |
| Mississippi   | 26   | 24   | 328,349   | 321,190   | 2.2    | Wyoming           | 36   | 36   | 174,078           | 170,078           | 2.7        |
| Missouri      | 12   | 11   | 594,301   | 649,277   | (8.5)  | <b>U.S. Total</b> | —    | —    | <b>21,074,524</b> | <b>21,512,408</b> | <b>3.0</b> |

(a) Preliminary and includes some NPN estimates for late reporting states.

(b) Oregon no longer collects diesel fuel data.

Source: Federal Highway Administration, Monthly Gasoline Reports 1990, and some NPN estimates.

## Diesel Fuel Consumption Trends





# Highway Diesel Sales by States — 1989

Diesel Sales for motor vehicles—passenger cars, trucks and buses—climbed another 5.5% in 1989, continuing the upward swing of recent years. On-highway consumption amounted to 21-billion gal., compared with 20-billion gal. in 1988. Off-highway sales—primarily for construction equipment and farms, but occasionally including utilities for power generation—declined 10% in 1989—a bit of a surprise.

(Add 000 gal.)

|                         | On-highway        |                   |              | Off-Highway      |                  |               |
|-------------------------|-------------------|-------------------|--------------|------------------|------------------|---------------|
|                         | 1989              | 1988              | % Change     | 1989             | 1988             | % Change      |
| <b>PAD District 1</b>   |                   |                   |              |                  |                  |               |
| New England States      |                   |                   |              |                  |                  |               |
| Connecticut .....       | 257,361           | 212,589           | 21.0         | 18,713           | 12,010           | 55.8          |
| Maine .....             | 139,908           | 175,344           | (20.2)       | 12,836           | 20,028           | (35.9)        |
| Massachusetts ..        | 271,944           | 293,007           | (7.2)        | 18,219           | 17,627           | 3.4           |
| New Hampshire ..        | 59,561            | 58,051            | 3.3          | 7,674            | 6,110            | 25.6          |
| Rhode Island .....      | 52,932            | 43,741            | 21.0         | 3,344            | 999              | 234.7         |
| Vermont .....           | 46,250            | 53,918            | (14.2)       | 5,717            | 7,404            | (22.8)        |
| Central Atlantic States |                   |                   |              |                  |                  |               |
| Delaware .....          | 74,089            | 55,412            | 33.1         | 4,202            | 3,384            | 24.2          |
| Dist. of Col. ....      | 23,064            | 23,033            | —            | 31               | 81               | (61.7)        |
| Maryland .....          | 351,150           | 299,521           | 17.2         | 32,165           | 15,272           | 110.6         |
| New Jersey .....        | 453,482           | 477,858           | (5.1)        | 52,452           | 28,363           | 84.9          |
| New York .....          | 754,276           | 713,826           | (5.7)        | 40,298           | 41,963           | (4.0)         |
| Pennsylvania .....      | 915,865           | 928,175           | (1.3)        | 51,847           | 45,595           | 13.7          |
| Lower Atlantic States   |                   |                   |              |                  |                  |               |
| Florida .....           | 899,369           | 832,093           | 8.0          | 65,627           | 56,154           | 10.9          |
| Georgia .....           | 838,847           | 831,267           | 0.9          | 38,179           | 35,397           | 7.9           |
| North Carolina ...      | 614,485           | 711,035           | (13.6)       | 26,655           | 28,443           | (6.3)         |
| South Carolina ..       | 302,614           | 310,365           | (2.4)        | 26,601           | 24,928           | 6.7           |
| Virginia .....          | 537,569           | 532,848           | 0.9          | 36,720           | 53,024           | (30.7)        |
| West Virginia .....     | 159,972           | 160,141           | (0.1)        | 20,358           | 18,285           | 11.3          |
| <b>Total .....</b>      | <b>6,752,736</b>  | <b>6,712,224</b>  | <b>(0.6)</b> | <b>461,638</b>   | <b>415,067</b>   | <b>11.2</b>   |
| <b>PAD District 2</b>   |                   |                   |              |                  |                  |               |
| Illinois .....          | 839,968           | 771,386           | 8.9          | 37,553           | 56,630           | (33.7)        |
| Indiana .....           | 784,441           | 628,647           | 24.8         | 29,465           | 17,954           | 64.1          |
| Iowa .....              | 349,044           | 333,931           | 4.5          | 9,595            | 17,335           | (50.4)        |
| Kansas .....            | 303,893           | 331,926           | 8.4          | 12,352           | 17,127           | (27.9)        |
| Kentucky .....          | 692,215           | 512,517           | 35.2         | 21,811           | 21,276           | 2.5           |
| Michigan .....          | 528,906           | 526,217           | 0.6          | 45,397           | 49,716           | (9.1)         |
| Minnesota .....         | 331,625           | 331,701           | —            | 26,163           | 23,638           | 10.7          |
| Missouri .....          | 641,680           | 535,424           | 19.8         | 21,499           | 37,120           | (42.1)        |
| Nebraska .....          | 208,258           | 217,014           | (4.0)        | 17,083           | 18,094           | (5.6)         |
| North Dakota .....      | 90,544            | 89,873            | 0.7          | 4,509            | 5,470            | (17.6)        |
| Ohio .....              | 960,195           | 861,428           | 19.9         | 27,963           | 27,752           | 0.8           |
| Oklahoma .....          | 394,174           | 394,165           | —            | 22,047           | 28,108           | (8.7)         |
| South Dakota ....       | 91,221            | 91,906            | (0.7)        | 5,642            | 11,684           | (51.7)        |
| Tennessee .....         | 587,396           | 578,829           | 1.5          | 26,619           | 59,940           | (55.6)        |
| Wisconsin .....         | 449,764           | 440,836           | 2.0          | 32,652           | 22,398           | 45.8          |
| <b>Total .....</b>      | <b>7,253,324</b>  | <b>6,645,800</b>  | <b>9.1</b>   | <b>340,350</b>   | <b>414,242</b>   | <b>(17.8)</b> |
| <b>PAD District 3</b>   |                   |                   |              |                  |                  |               |
| Alabama .....           | 544,882           | 480,340           | 13.4         | 63,870           | 53,110           | 20.3          |
| Arkansas .....          | 395,236           | 346,026           | 14.2         | 32,128           | 30,943           | 3.8           |
| Louisiana .....         | 385,621           | 383,054           | 0.7          | 54,974           | 74,854           | (26.6)        |
| Mississippi .....       | 302,523           | 302,361           | —            | 33,576           | 33,755           | (0.5)         |
| New Mexico .....        | 205,916           | 204,734           | 0.6          | 21,484           | 35,167           | (38.9)        |
| Texas .....             | 1,387,059         | 1,296,067         | 41.7         | 170,936          | 277,203          | (38.3)        |
| <b>Total .....</b>      | <b>3,221,237</b>  | <b>3,012,582</b>  | <b>6.9</b>   | <b>376,968</b>   | <b>505,034</b>   | <b>(25.4)</b> |
| <b>PAD District 4</b>   |                   |                   |              |                  |                  |               |
| Colorado .....          | 185,519           | 188,922           | (1.8)        | 27,355           | 43,198           | (36.7)        |
| Idaho .....             | 117,246           | 99,626            | 17.7         | 13,872           | 17,004           | (18.4)        |
| Montana .....           | 119,503           | 115,899           | 3.1          | 15,989           | 11,171           | 43.1          |
| Utah .....              | 125,184           | 149,108           | (15.6)       | 18,551           | 21,284           | (12.8)        |
| Wyoming .....           | 187,452           | 171,874           | 9.1          | 17,844           | 22,388           | (20.3)        |
| <b>Total .....</b>      | <b>734,904</b>    | <b>725,429</b>    | <b>1.3</b>   | <b>93,611</b>    | <b>115,045</b>   | <b>(16.0)</b> |
| <b>PAD District 5</b>   |                   |                   |              |                  |                  |               |
| Alaska .....            | 96,446            | 83,235            | 15.9         | 13,980           | 13,855           | 0.9           |
| Arizona .....           | 314,671           | 299,981           | 4.9          | 37,978           | 25,285           | 50.2          |
| California .....        | 1,913,647         | 1,760,085         | 8.7          | 193,260          | 208,735          | (7.4)         |
| Hawaii .....            | 23,717            | 21,935            | 8.1          | 5,428            | 7,227            | (24.9)        |
| Nevada .....            | 131,055           | 118,022           | 11.0         | 24,066           | 32,792           | (26.6)        |
| Oregon .....            | 311,843           | 302,381           | 3.0          | 44,577           | 43,412           | 2.7           |
| Washington .....        | 378,110           | 357,017           | 5.9          | 45,640           | 41,125           | 13.4          |
| <b>Total .....</b>      | <b>3,169,489</b>  | <b>2,942,656</b>  | <b>7.7</b>   | <b>364,929</b>   | <b>372,431</b>   | <b>(2.0)</b>  |
| <b>U.S. Total ....</b>  | <b>21,131,692</b> | <b>20,038,691</b> | <b>5.5%</b>  | <b>1,637,496</b> | <b>1,821,819</b> | <b>10.1%</b>  |

Source: Fuel Oil and Kerosine Sales 1990, published in January 1991 by Energy Information Administration as a stand-alone publication.

# Diesel Fuel Consumption by States — 1989

(Add 000 gal.)

| State                  | Jan.             | Feb.             | Mar.             | Apr.             | May              | June             | July             | Aug.             | Sept.            | Oct.             | Nov.             | Dec.             | Total             |
|------------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|-------------------|
| Alabama.....           | 63,470           | 31,569           | 27,244           | 66,113           | 35,273           | 45,158           | 52,996           | 38,906           | 46,222           | 55,735           | 39,059           | 44,065           | 545,810           |
| Alaska.....            | 3,294            | 4,000            | 4,179            | 5,485            | 10,310           | 4,838            | -6,278           | 32,374           | 14,693           | 10,028           | 4,229            | 10,436           | 97,588            |
| Arizona.....           | 38,760           | 25,864           | 19,730           | 23,186           | 35,078           | 20,437           | 27,311           | 27,125           | 29,220           | 26,518           | 26,737           | 25,729           | 325,065           |
| Arkansas.....          | 15,613           | 50,044           | 18,722           | 34,899           | 34,027           | 33,766           | 35,308           | 30,987           | 28,725           | 41,164           | 30,253           | 34,505           | 388,013           |
| California.....        | 138,838          | 138,838          | 138,838          | 133,375          | 150,437          | 165,354          | 149,977          | 174,795          | 202,993          | 155,090          | 157,938          | 237,858          | 1,944,331         |
| Colorado.....          | 11,991           | 11,452           | 15,365           | 13,897           | 13,279           | 17,587           | 15,718           | 16,785           | 20,382           | 17,897           | 16,376           | 16,986           | 187,715           |
| Connecticut.....       | 14,563           | 13,019           | 31,727           | 16,732           | 17,146           | 31,305           | 18,155           | 19,867           | 32,230           | 18,808           | 18,666           | 28,190           | 260,408           |
| Delaware.....          | 5,666            | 11,991           | 4,263            | 5,547            | 7,077            | 4,522            | 6,067            | 6,219            | 6,219            | 6,616            | 6,533            | 4,246            | 74,966            |
| Dist. of Col. ....     | 1,731            | 1,815            | 1,913            | 1,977            | 1,922            | 2,047            | 2,063            | 2,020            | 2,062            | 1,922            | 1,891            | 1,974            | 23,337            |
| Florida.....           | 76,024           | 74,742           | 74,836           | 79,808           | 74,477           | 83,850           | 72,528           | 65,602           | 74,431           | 65,488           | 74,101           | 75,230           | 901,119           |
| Georgia.....           | 75,959           | 68,285           | 71,136           | 74,124           | 66,751           | 75,784           | 62,869           | 75,784           | 63,067           | 81,407           | 65,306           | 67,261           | 847,733           |
| Hawaii.....            | 2,262            | 1,545            | 1,977            | 2,060            | 1,808            | 2,179            | 2,821            | 1,872            | 1,853            | 2,413            | 1,918            | 1,878            | 24,586            |
| Idaho.....             | 13,741           | 13,043           | 6,080            | 8,362            | 13,320           | 4,876            | 6,570            | 18,415           | 6,074            | 10,335           | 15,644           | 2,174            | 118,634           |
| Illinois.....          | 66,820           | 60,719           | 122,712          | 69,620           | 69,143           | 127,391          | 73,066           | 84,507           | 125,994          | 74,416           | 66,270           | 128,455          | 1,069,113         |
| Indiana.....           | 29,321           | 58,174           | 78,632           | 46,231           | 49,968           | 89,957           | 52,078           | 29,583           | 102,216          | 63,882           | 57,749           | 78,836           | 736,627           |
| Iowa.....              | 27,443           | 26,112           | 32,445           | 29,314           | 28,627           | 32,127           | 27,011           | 28,391           | 31,412           | 31,455           | 27,584           | 32,101           | 354,022           |
| Kansas.....            | 16,250           | 28,189           | 20,249           | 27,851           | 27,442           | 24,793           | 29,537           | 25,231           | 26,682           | 28,675           | 23,142           | 28,276           | 308,517           |
| Kentucky.....          | 24,147           | 39,766           | 39,815           | 50,585           | 51,015           | 42,444           | 48,326           | 47,666           | 39,177           | 45,526           | 36,793           | 50,178           | 515,436           |
| Louisiana.....         | 28,520           | 28,645           | 28,981           | 39,331           | 31,093           | 38,007           | 32,297           | 31,923           | 36,808           | 32,111           | 28,756           | 35,514           | 390,186           |
| Maine.....             | 16,928           | 16,361           | 13,006           | 16,393           | 12,493           | 10,223           | 18,778           | 13,527           | 14,508           | 16,668           | 20,206           | 13,695           | 182,756           |
| Maryland.....          | 23,861           | 18,886           | 41,837           | 22,296           | 26,992           | 41,226           | 24,660           | 28,818           | 37,525           | 25,588           | 25,508           | 38,110           | 355,307           |
| Massachusetts.....     | 17,921           | 25,327           | 17,143           | 23,996           | 25,808           | 25,930           | 21,015           | 23,553           | 23,002           | 21,986           | 24,178           | 23,227           | 273,086           |
| Michigan.....          | 25,974           | 37,760           | 45,861           | 51,230           | 34,783           | 66,248           | 39,748           | 33,752           | 67,665           | 35,635           | 36,123           | 60,691           | 535,470           |
| Minnesota.....         | 18,799           | 30,228           | 25,942           | 26,047           | 28,854           | 29,282           | 28,306           | 25,541           | 30,534           | 34,345           | 26,597           | 31,076           | 335,551           |
| Mississippi.....       | 21,389           | 20,033           | 26,647           | 33,380           | 22,746           | 27,667           | 30,190           | 26,572           | 28,159           | 34,349           | 22,264           | 27,794           | 321,190           |
| Missouri.....          | 54,692           | 41,305           | 66,742           | 49,886           | 41,411           | 69,616           | 48,123           | 40,346           | 65,122           | 64,641           | 56,205           | 51,388           | 649,277           |
| Montana.....           | 11,726           | 7,266            | 8,586            | 11,272           | 7,295            | 11,779           | 12,273           | 7,167            | 12,835           | 13,082           | 7,392            | 10,245           | 120,918           |
| Nebraska.....          | 13,436           | 14,992           | 20,073           | 15,349           | 19,215           | 19,564           | 13,950           | 21,078           | 16,635           | 16,936           | 19,190           | 18,305           | 210,723           |
| Nevada.....            | 7,152            | 7,889            | 17,777           | 6,583            | 10,483           | 14,402           | 8,726            | 12,318           | 14,376           | 9,760            | 14,837           | 8,304            | 132,607           |
| New Hampshire.....     | 6,860            | 6,104            | 5,068            | 6,039            | 3,426            | 5,231            | 5,542            | 3,772            | 4,676            | 5,917            | 4,079            | 3,552            | 60,266            |
| New Jersey.....        | 39,063           | 31,950           | 40,364           | 34,949           | 36,031           | 38,554           | 34,099           | 47,796           | 34,230           | 34,839           | 42,281           | 41,203           | 455,359           |
| New Mexico.....        | 39,330           | 12,187           | 1,679            | 29,922           | 21,364           | 714              | 47,012           | 877              | 877              | 44,811           | 8,726            | 855              | 208,354           |
| New York.....          | 16,066           | 58,303           | 104,069          | 52,138           | 58,884           | 91,587           | 59,742           | 59,181           | 87,023           | 58,265           | 30,065           | 87,833           | 783,208           |
| North Carolina.....    | 35,122           | 54,136           | 57,269           | 44,100           | 58,141           | 59,464           | 45,143           | 52,745           | 55,453           | 57,949           | 47,371           | 54,867           | 621,780           |
| North Dakota.....      | 5,255            | 7,401            | 6,367            | 8,020            | 7,149            | 9,640            | 7,890            | 7,495            | 8,951            | 8,890            | 7,402            | 7,969            | 93,429            |
| Ohio.....              | 80,858           | 84,219           | 75,433           | 71,214           | 97,778           | 77,291           | 71,270           | 88,193           | 78,366           | 86,184           | 106,660          | 85,575           | 1,003,041         |
| Oklahoma.....          | 36,046           | 31,134           | 35,166           | 35,246           | 31,845           | 32,513           | 35,144           | 31,074           | 31,814           | 35,457           | 26,089           | 36,450           | 397,978           |
| Oregon.....            | 26,295           | 26,295           | 26,295           | 26,295           | 26,295           | 26,295           | 26,295           | 26,295           | 26,295           | 26,295           | 26,295           | 26,295           | 315,540           |
| Pennsylvania.....      | 76,572           | 73,268           | 81,510           | 78,687           | 81,076           | 74,713           | 74,927           | 85,353           | 67,920           | 85,548           | 80,497           | 66,636           | 926,707           |
| Rhode Island.....      | 4,683            | 4,683            | 4,683            | 4,645            | 4,645            | 4,645            | 4,715            | 4,715            | 4,715            | 3,810            | 3,810            | 3,810            | 53,559            |
| South Carolina.....    | 22,838           | 19,529           | 24,315           | 29,416           | 21,269           | 30,085           | 25,954           | 23,987           | 24,927           | 29,239           | 19,416           | 34,424           | 306,199           |
| South Dakota.....      | 8,755            | 7,465            | 7,251            | 7,102            | 7,407            | 7,331            | 7,538            | 8,389            | 8,056            | 6,002            | 8,224            | 8,265            | 93,785            |
| Tennessee.....         | 34,558           | 47,587           | 60,927           | 48,765           | 49,334           | 46,390           | 44,167           | 50,080           | 55,926           | 54,884           | 41,041           | 56,530           | 590,186           |
| Texas.....             | 97,504           | 109,942          | 131,080          | 113,707          | 102,457          | 136,965          | 155,461          | 112,149          | 128,787          | 121,830          | 105,175          | 128,423          | 1,443,480         |
| Utah.....              | 15,899           | 6,311            | 6,311            | 8,402            | 22,200           | 8,387            | 2,801            | 7,459            | 6,158            | 29,997           | 6,549            | 6,192            | 126,666           |
| Vermont.....           | 2,360            | 7,423            | 2,765            | 1,654            | 7,096            | 1,995            | 1,561            | 7,319            | 2,642            | 1,568            | 4,079            | 6,336            | 46,798            |
| Virginia.....          | 45,036           | 38,433           | 54,297           | 47,098           | 43,653           | 61,664           | 41,186           | 51,139           | 51,000           | 49,812           | 41,031           | 52,302           | 576,651           |
| Washington.....        | 36,107           | 39,295           | 18,699           | 30,798           | 34,567           | 24,875           | 28,168           | 14,748           | 49,873           | 23,753           | 38,056           | 43,647           | 382,586           |
| West Virginia.....     | 17,156           | 10,645           | 21,676           | 11,354           | 10,907           | 17,803           | 13,018           | 11,391           | 19,250           | 20,306           | 11,521           | 18,028           | 163,065           |
| Wisconsin.....         | 35,482           | 34,902           | 39,112           | 35,191           | 38,494           | 39,058           | 35,366           | 40,010           | 38,705           | 41,745           | 39,124           | 37,900           | 455,080           |
| Wyoming.....           | 12,385           | 16,082           | 13,448           | —                | 13,604           | 14,860           | 15,110           | 18,575           | 16,071           | 21,004           | 15,234           | 13,705           | 170,078           |
| <b>U.S. Total.....</b> | <b>1,561,331</b> | <b>1,833,363</b> | <b>1,840,244</b> | <b>1,709,471</b> | <b>1,725,895</b> | <b>1,982,419</b> | <b>1,736,298</b> | <b>1,743,446</b> | <b>2,006,536</b> | <b>1,893,781</b> | <b>1,684,172</b> | <b>2,007,674</b> | <b>21,804,639</b> |

This table, prepared by the Federal Highway Administration, shows gross gallons of special fuels, but this is primarily diesel fuel. Included are small amounts of liquefied petroleum gases. In most cases, FHA says, the data reflect retail sales for the year.

Source: Federal Highway Administration, Monthly Gasoline Reports, 1989.

# Diesel Fuel Consumption by States — 1990

(Add 000 gal.)

| State               | Jan.    | Feb.    | Mar.    | Apr.    | May     | June    | July    | Aug.    | Sept.   | Oct.    | Nov.    | Dec.    | Total     |
|---------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|-----------|
| Alabama.....        | 56,959  | 33,964  | 47,493  | 62,250  | 40,023  | 49,349  | 48,086  | 50,895  | 40,455  | 61,199  | 37,857  | 42,580  | 571,090   |
| Alaska.....         | 16,897  | 6,249   | 6,373   | 4,334   | 45,642  | 6,650   | 5,445   | 2,997   | 20,007  | 20,305  | 17,348  | 1,730   | 153,977   |
| Arizona.....        | 38,760  | 17,131  | 25,099  | 24,822  | 25,274  | 26,332  | 29,637  | 25,023  | 30,477  | 21,400  | 28,073  | 317,051 | 317,051   |
| Arkansas.....       | 28,258  | 35,004  | 25,377  | 31,055  | 41,384  | 32,638  | 37,935  | 19,881  | 42,485  | 38,801  | 11,194  | 46,391  | 388,413   |
| California.....     | 135,026 | 135,123 | 169,945 | 151,114 | 156,012 | 163,431 | 155,416 | 157,459 | 165,017 | 145,129 | 137,466 | 151,920 | 1,823,056 |
| Colorado.....       | 12,508  | 15,231  | 14,175  | 15,423  | 17,138  | 15,851  | 18,540  | 22,383  | 17,576  | 20,312  | 19,799  | 30,806  | 219,742   |
| Connecticut.....    | 15,764  | 14,957  | 18,068  | 16,205  | 17,666  | 17,499  | 16,372  | 18,720  | 16,066  | 18,897  | 16,622  | 16,967  | 203,803   |
| Delaware.....       | 5,218   | 3,911   | 3,426   | 4,215   | 5,245   | 3,984   | 5,890   | 4,487   | 2,704   | 6,373   | 4,507   | 3,306   | 53,266    |
| Dist. of Col.....   | 1,974   | 1,783   | 1,925   | 1,918   | 1,840   | 1,732   | 2,121   | 2,087   | 1,744   | 1,903   | 1,803   | 1,903   | 22,833    |
| Florida.....        | 72,897  | 74,945  | 77,656  | 79,975  | 76,492  | 77,788  | 71,410  | 70,307  | 73,950  | 67,157  | 67,679  | 67,679  | 880,935   |
| Georgia.....        | 65,551  | 68,065  | 74,895  | 72,606  | 65,482  | 76,319  | 69,972  | 75,059  | 69,647  | 74,830  | 63,787  | 71,244  | 867,437   |
| Hawaii.....         | 2,184   | 1,999   | 1,936   | 2,471   | 1,962   | 2,333   | 2,170   | 2,107   | 2,352   | 2,105   | 2,101   | 2,076   | 25,796    |
| Idaho.....          | 14,211  | 10,682  | 5,465   | 11,003  | 14,492  | 4,840   | 14,161  | 12,915  | 7,300   | 13,727  | 8,676   | 7,505   | 124,977   |
| Illinois.....       | 74,156  | 74,195  | 84,411  | 87,391  | 74,627  | 164,300 | 71,675  | 78,682  | 83,131  | 87,064  | 70,008  | 86,331  | 1,035,971 |
| Indiana.....        | 38,150  | 56,791  | 98,148  | 65,014  | 65,567  | 99,148  | 67,661  | 69,574  | 45,366  | 71,863  | 67,190  | 67,679  | 812,151   |
| Iowa.....           | 28,314  | 24,797  | 30,867  | 29,477  | 27,768  | 27,856  | 31,402  | 27,320  | 27,325  | 34,285  | 24,724  | 31,550  | 345,685   |
| Kansas.....         | 21,988  | 24,296  | 20,777  | 23,464  | 17,781  | 21,633  | 37,151  | 21,018  | 32,268  | 29,768  | 18,528  | 35,705  | 304,377   |
| Kentucky.....       | 43,960  | 47,307  | 24,703  | 47,207  | 48,601  | 35,139  | 42,006  | 47,056  | 26,542  | 31,681  | 44,998  | 48,142  | 485,342   |
| Louisiana.....      | 27,960  | 22,989  | 36,869  | 32,260  | 31,208  | 38,220  | 31,292  | 30,104  | 36,478  | 33,295  | 29,065  | 29,052  | 378,792   |
| Maine.....          | 12,643  | 14,600  | 12,188  | 17,753  | 19,658  | 6,665   | 13,812  | 12,854  | 17,080  | 14,776  | 12,725  | 15,300  | 170,252   |
| Maryland.....       | 26,130  | 19,873  | 24,620  | 23,270  | 26,524  | 26,066  | 22,621  | 25,824  | 25,939  | 26,344  | 25,455  | 32,276  | 304,942   |
| Massachusetts.....  | 26,219  | 15,926  | 21,908  | 25,976  | 22,697  | 19,436  | 16,348  | 20,773  | 25,367  | 23,350  | 17,767  | 27,297  | 263,064   |
| Michigan.....       | 30,063  | 29,584  | 61,196  | 37,346  | 36,253  | 67,600  | 39,462  | 31,909  | 70,603  | 35,526  | 31,986  | 63,021  | 534,549   |
| Minnesota.....      | 22,916  | 24,400  | 26,217  | 25,806  | 29,546  | 29,969  | 27,751  | 31,609  | 30,940  | 31,240  | 28,778  | 25,698  | 334,510   |
| Mississippi.....    | 27,612  | 21,350  | 27,585  | 33,032  | 24,268  | 28,752  | 28,674  | 26,351  | 30,652  | 33,193  | 23,327  | 23,553  | 328,349   |
| Missouri.....       | 45,790  | 48,404  | 44,400  | 38,635  | 42,556  | 56,770  | 47,579  | 57,571  | 60,682  | 58,144  | 41,094  | 52,676  | 694,301   |
| Montana.....        | 12,085  | 7,680   | 8,449   | 11,786  | 8,105   | 11,528  | 15,515  | 9,547   | 9,547   | 9,547   | 9,547   | 9,547   | 122,855   |
| Nebraska.....       | 13,534  | 15,425  | 19,711  | 17,546  | 20,746  | 20,646  | 20,040  | 18,815  | 19,112  | 20,159  | 16,745  | 18,472  | 220,951   |
| Nevada.....         | 8,218   | 8,066   | 15,669  | 6,925   | 8,795   | 15,703  | 8,529   | 11,451  | 15,869  | 9,591   | 16,252  | 9,773   | 134,841   |
| New Hampshire.....  | 6,843   | 3,173   | 3,701   | 6,008   | 3,021   | 4,191   | 6,187   | 2,222   | 4,114   | 5,965   | 3,853   | 3,152   | 52,430    |
| New Jersey.....     | 43,004  | 38,316  | 40,789  | 34,825  | 42,788  | 32,749  | 34,763  | 36,952  | 32,465  | 38,001  | 37,465  | 37,465  | 412,177   |
| New Mexico.....     | 42,525  | 12,949  | —       | 43,003  | 11,205  | 1,583   | 30,835  | 24,607  | 805     | 43,946  | 10,559  | 621     | 222,638   |
| New York.....       | 76,852  | 64,506  | 68,051  | 80,392  | 85,107  | 79,628  | 76,374  | 82,855  | 76,721  | 76,721  | 76,721  | 76,721  | 920,649   |
| North Carolina..... | 45,323  | 43,096  | 44,016  | 71,324  | 52,612  | 55,680  | 47,941  | 55,102  | 59,764  | 51,340  | 45,788  | 56,689  | 627,875   |
| North Dakota.....   | 7,127   | 5,318   | 5,803   | 9,636   | 8,843   | 9,108   | 8,647   | 7,211   | 7,719   | 7,997   | 8,713   | 7,006   | 93,127    |
| Ohio.....           | 69,203  | 66,283  | 65,857  | 76,010  | 65,676  | 80,929  | 78,863  | 67,857  | 73,967  | 88,246  | 75,412  | 78,955  | 947,456   |
| Oklahoma.....       | 28,602  | 31,611  | 30,960  | 35,115  | 30,264  | 33,078  | 34,871  | 32,013  | 33,105  | 33,244  | 30,732  | 30,015  | 383,610   |
| Oregon (a).....     | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —         |
| Pennsylvania.....   | 76,671  | 72,969  | 76,108  | 80,312  | 84,142  | 77,419  | 79,221  | 85,131  | 72,136  | 86,219  | 77,985  | —       | 868,313   |
| Rhode Island.....   | 2,926   | 2,926   | 2,926   | 3,933   | 3,933   | 3,933   | 3,334   | 3,334   | 3,334   | 3,326   | 3,326   | 3,326   | 40,537    |
| South Carolina..... | 34,424  | 32,707  | 25,150  | 36,684  | 3,848   | 35,391  | 27,867  | 27,867  | 27,867  | 27,867  | 27,867  | 27,867  | 394,404   |
| South Dakota.....   | 8,475   | 7,492   | 8,350   | 8,029   | 7,967   | 7,858   | 8,350   | 9,081   | 8,331   | 10,151  | 9,188   | 7,829   | 100,901   |
| Tennessee.....      | 45,462  | 36,133  | 55,879  | 51,081  | 49,557  | 59,484  | 53,171  | 42,982  | 57,581  | 57,983  | 45,083  | 53,540  | 607,876   |
| Texas.....          | 112,568 | 92,039  | 123,721 | 111,913 | 107,090 | 136,933 | 113,008 | 129,143 | 114,898 | 128,702 | 109,700 | 122,414 | 1,402,129 |
| Utah.....           | 20,671  | 10,985  | 2,839   | 8,134   | 23,346  | 2,773   | 27,446  | 19,928  | 14,413  | 27,318  | 14,340  | 8,735   | 180,928   |
| Vermont.....        | 3,120   | 3,676   | 5,203   | 1,678   | 5,815   | 2,859   | 491     | 5,599   | 2,844   | 3,790   | 3,355   | 3,507   | 41,937    |
| Virginia.....       | 43,632  | 40,196  | 45,246  | 48,911  | 43,265  | 54,183  | 44,715  | 49,115  | 40,058  | 50,844  | 47,412  | 39,345  | 546,922   |
| Washington.....     | 23,671  | 20,640  | 34,088  | 34,614  | 21,308  | 32,270  | 41,518  | 21,731  | 33,722  | 31,755  | 36,105  | 31,606  | 363,028   |
| West Virginia.....  | 14,036  | 11,450  | 13,109  | 12,937  | 16,836  | 7,138   | 15,451  | 12,886  | 8,626   | 17,980  | 10,495  | 11,816  | 152,782   |
| Wisconsin.....      | 36,344  | 35,581  | 30,140  | 37,604  | 40,881  | 33,227  | 39,582  | 41,465  | 33,808  | 42,764  | 40,947  | 37,468  | 449,599   |
| Wyoming.....        | 11,909  | 14,592  | 14,229  | 14,795  | 15,655  | 15,951  | 14,770  | 14,557  | 14,557  | 14,557  | 14,557  | 14,557  | 174,986   |

U.S. Total.....1,699,545 1,540,985 1,745,714 1,806,197 1,754,469 1,914,542 1,786,078 1,756,416 1,762,042 1,897,757 1,618,111 1,554,286 20,816,142

(a) Oregon no longer collects diesel data.

This table, prepared by the Federal Highway Administration, shows gross gallons of special fuels, but this is primarily diesel fuel. Included are small amounts of liquefied petroleum gases. This is a preliminary report for 1990 and includes some estimates by NPN to offset late reporting by some states.

Source: Federal Highway Administration, Monthly Gasoline Reports, 1990.

# Gasoline Prices by Grades and Months

(U.S. retail averages in ¢ per gal., including taxes and types of service)

| 1990      |                |                  |                  |                    |
|-----------|----------------|------------------|------------------|--------------------|
| Month     | Leaded Regular | Unleaded Regular | Unleaded Premium | Avg. For All Types |
| January   | 100.6          | 104.2            | 123.0            | 109.0              |
| February  | 101.1          | 103.7            | 122.7            | 108.6              |
| March     | 99.9           | 102.3            | 121.8            | 107.6              |
| April     | 102.7          | 104.4            | 123.3            | 109.6              |
| May       | 104.4          | 106.1            | 124.8            | 111.4              |
| June      | 107.7          | 108.8            | 127.1            | 114.0              |
| July      | 108.9          | 108.4            | 127.2            | 113.9              |
| August    | 119.8          | 119.0            | 136.9            | 124.6              |
| September | 129.7          | 129.4            | 146.7            | 134.7              |
| October   | 135.4          | 137.8            | 155.4            | 143.1              |
| November  | 135.1          | 137.7            | 155.9            | 143.2              |
| December  | 135.2          | 138.7            | 155.2            | 142.1              |
| Average   | 115.0          | 116.7            | 135.0            | 121.8              |

| 1988      |                |                  |                  |                    |
|-----------|----------------|------------------|------------------|--------------------|
| Month     | Leaded Regular | Unleaded Regular | Unleaded Premium | Avg. For All Types |
| January   | 88.1           | 93.3             | 109.5            | 94.7               |
| February  | 85.9           | 91.3             | 108.2            | 92.8               |
| March     | 85.0           | 90.4             | 107.4            | 92.0               |
| April     | 88.3           | 93.0             | 108.8            | 94.6               |
| May       | 91.1           | 95.5             | 111.4            | 97.0               |
| June      | 91.0           | 95.5             | 111.1            | 97.1               |
| July      | 92.3           | 96.7             | 112.3            | 98.4               |
| August    | 94.5           | 98.7             | 113.8            | 100.4              |
| September | 93.3           | 97.4             | 113.0            | 99.2               |
| October   | 91.0           | 95.6             | 111.9            | 97.5               |
| November  | 90.4           | 94.9             | 111.6            | 97.2               |
| December  | 88.5           | 93.0             | 110.1            | 95.3               |
| Average   | 90.0           | 94.6             | 110.7            | 96.4               |

| 1989      |                |                  |                  |                    |
|-----------|----------------|------------------|------------------|--------------------|
| Month     | Leaded Regular | Unleaded Regular | Unleaded Premium | Avg. For All Types |
| January   | 87.6           | 91.8             | 109.1            | 94.4               |
| February  | 88.6           | 92.6             | 110.0            | 95.5               |
| March     | 90.7           | 94.0             | 111.5            | 97.4               |
| April     | 104.7          | 106.5            | 122.1            | 109.8              |
| May       | 109.8          | 111.9            | 127.8            | 115.2              |
| June      | 109.3          | 111.4            | 127.8            | 115.0              |
| July      | 107.5          | 109.2            | 126.4            | 113.2              |
| August    | 103.4          | 105.7            | 123.3            | 109.6              |
| September | 100.7          | 102.9            | 121.3            | 107.3              |
| October   | 100.1          | 102.7            | 120.9            | 107.1              |
| November  | 97.5           | 99.9             | 118.7            | 104.6              |
| December  | 96.1           | 98.0             | 117.8            | 103.0              |
| Average   | 99.7           | 102.2            | 119.7            | 106.0              |

## Gasoline Price Averages, 1980 – 1987

| Year     | Leaded Regular | Unleaded Regular | Unleaded Premium | Avg. For All Types |
|----------|----------------|------------------|------------------|--------------------|
| 1987     | 89.7           | 94.8             | 109.3            | 95.7               |
| 1986     | 85.7           | 92.7             | 108.5            | 93.1               |
| 1985     | 111.5          | 120.2            | 134.0            | 119.6              |
| 1984     | 112.9          | 121.2            | 136.6 (a)        | 119.8              |
| 1983     | 115.7          | 124.1            | 138.3 (a)        | 122.5              |
| 1982     | 122.2          | 129.6            | 141.5 (a)        | 128.1              |
| 1981 (b) | 131.1          | 137.8            | 147.0 (a)        | 135.3              |
| 1980     | 119.1          | 124.5            | NA               | 122.1              |

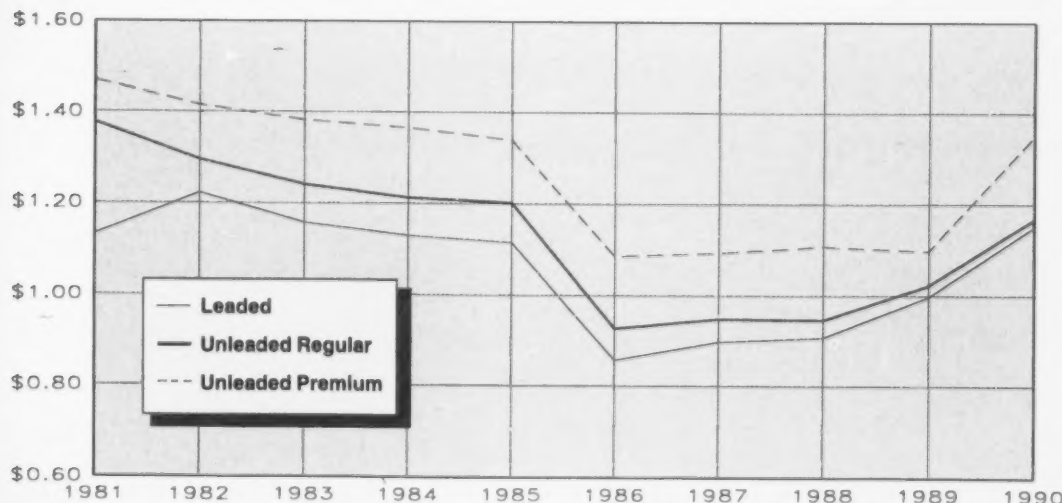
(a) In January 1984, this series was switched from leaded premium to reflect changing market conditions.

(b) Data for 1981 and earlier are for leaded premium. Beginning Sept. 1981, the Bureau of Labor Statistics changed the weights used in the calculation of average motor gasoline.

Source: Energy Information Administration, Monthly Energy Review, January 1991.

## Average Pump Prices for Gasoline 1981 – 1990

(\$ per gal., including and reflecting full-service, etc.)



Source: Bureau of Labor Statistics data; graph by NPN.



# U.S. Retail Gasoline Prices by Population

## All Types

| Population Sizes and Regions  | Jan.    | Feb.    | Mar.    | Apr.    | May     | June    | July    | Aug.    | Sept.   | Oct.    | Nov.    | Dec.    | Average<br>Per Year |
|-------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------------------|
| <b>U.S. City Average</b>      | \$1.090 | \$1.086 | \$1.076 | \$1.096 | \$1.114 | \$1.140 | \$1.139 | \$1.246 | \$1.347 | \$1.431 | \$1.432 | \$1.410 | \$1.217             |
| <b>Region Area and Size</b>   |         |         |         |         |         |         |         |         |         |         |         |         |                     |
| <b>Northeast Urban</b>        | 1.114   | 1.121   | 1.104   | 1.100   | 1.109   | 1.144   | 1.155   | 1.243   | 1.368   | 1.476   | 1.510   | 1.505   | 1.246               |
| Size A - More than 1,200,000  | 1.113   | 1.120   | 1.107   | 1.102   | 1.109   | 1.146   | 1.159   | 1.244   | 1.366   | 1.485   | 1.521   | 1.509   | 1.248               |
| Size B - 500,000 to 1,200,000 | 1.144   | 1.142   | 1.134   | 1.122   | 1.134   | 1.168   | 1.171   | 1.259   | 1.386   | 1.483   | 1.518   | 1.514   | 1.285               |
| Size C - 50,000 to 500,000    | 1.066   | 1.084   | 1.054   | 1.057   | 1.076   | 1.111   | 1.113   | 1.215   | 1.351   | 1.414   | 1.438   | 1.450   | 1.202               |
| <b>North Central Urban</b>    | 1.109   | 1.075   | 1.061   | 1.117   | 1.134   | 1.154   | 1.128   | 1.278   | 1.366   | 1.435   | 1.404   | 1.349   | 1.218               |
| Size A - More than 1,200,000  | 1.132   | 1.103   | 1.084   | 1.149   | 1.170   | 1.184   | 1.161   | 1.301   | 1.377   | 1.452   | 1.432   | 1.379   | 1.244               |
| Size B - 360,000 to 1,200,000 | 1.092   | 1.038   | 1.009   | 1.037   | 1.072   | 1.081   | 1.053   | 1.255   | 1.339   | 1.424   | 1.377   | 1.313   | 1.174               |
| Size C - 50,000 to 360,000    | 1.115   | 1.057   | 1.037   | 1.105   | 1.117   | 1.135   | 1.108   | 1.267   | 1.373   | 1.434   | 1.397   | 1.324   | 1.206               |
| Size D - Non-Metropolitan*    | 1.046   | 1.027   | 1.030   | 1.061   | 1.052   | 1.105   | 1.071   | 1.225   | 1.347   | 1.377   | 1.317   | 1.287   | 1.162               |
| <b>South Urban</b>            | 1.100   | 1.102   | 1.080   | 1.091   | 1.105   | 1.123   | 1.118   | 1.209   | 1.317   | 1.405   | 1.409   | 1.392   | 1.204               |
| Size A - More than 1,200,000  | 1.078   | 1.082   | 1.074   | 1.082   | 1.092   | 1.109   | 1.111   | 1.176   | 1.273   | 1.382   | 1.408   | 1.397   | 1.189               |
| Size B - 450,000 to 1,200,000 | 1.119   | 1.127   | 1.104   | 1.108   | 1.126   | 1.141   | 1.131   | 1.242   | 1.340   | 1.429   | 1.420   | 1.398   | 1.223               |
| Size C - 50,000 to 450,000    | 1.104   | 1.099   | 1.058   | 1.071   | 1.087   | 1.112   | 1.102   | 1.203   | 1.330   | 1.391   | 1.376   | 1.364   | 1.191               |
| Size D - Non-Metropolitan*    | 1.134   | 1.118   | 1.079   | 1.123   | 1.130   | 1.152   | 1.147   | 1.260   | 1.383   | 1.453   | 1.461   | 1.426   | 1.239               |
| <b>West Urban</b>             | 1.030   | 1.045   | 1.059   | 1.078   | 1.108   | 1.141   | 1.163   | 1.263   | 1.350   | 1.419   | 1.427   | 1.421   | 1.209               |
| Size A - More than 1,250,000  | 1.019   | 1.037   | 1.054   | 1.074   | 1.110   | 1.142   | 1.167   | 1.271   | 1.355   | 1.430   | 1.434   | 1.426   | 1.210               |
| Size C - 50,000 to 330,000    | 1.002   | 1.015   | 1.020   | 1.052   | 1.072   | 1.125   | 1.141   | 1.261   | 1.360   | 1.425   | 1.414   | 1.375   | 1.189               |

## Leaded Regular

|                               |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| <b>U.S. City Average</b>      | 1.006 | 1.011 | 0.999 | 1.027 | 1.044 | 1.077 | 1.089 | 1.188 | 1.297 | 1.354 | 1.351 | 1.335 | 1.149 |
| <b>Region Area and Size</b>   |       |       |       |       |       |       |       |       |       |       |       |       |       |
| <b>Northeast Urban</b>        | 1.091 | 1.099 | 1.088 | 1.065 | 1.076 | 1.117 | 1.076 | 1.210 | 1.279 | 1.329 | 1.329 | 1.569 | 1.194 |
| Size A - More than 1,200,000  | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   |
| Size B - 500,000 to 1,200,000 | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   |
| Size C - 50,000 to 500,000    | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   |
| <b>North Central Urban</b>    | 1.053 | 1.032 | 1.006 | 1.069 | 1.062 | 1.091 | 1.073 | 1.257 | 1.353 | 1.386 | 1.341 | 1.295 | 1.168 |
| Size A - More than 1,200,000  | 1.056 | 1.042 | 1.008 | 1.078 | 1.092 | 1.100 | 1.111 | 1.234 | 1.349 | 1.396 | 1.356 | 1.324 | 1.179 |
| Size B - 360,000 to 1,200,000 | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   |
| Size C - 50,000 to 360,000    | 1.074 | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | 1.278 | 1.375 | 1.434 | 1.379 | 1.334 | 1.312 |
| Size D - Non-Metropolitan*    | 1.022 | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | 1.022 |
| <b>South Urban</b>            | 1.065 | 1.082 | 1.015 | 1.041 | 1.046 | 1.073 | 1.055 | 1.200 | 1.314 | 1.356 | 1.345 | 1.294 | 1.157 |
| Size A - More than 1,200,000  | 1.020 | 1.012 | 1.006 | 1.026 | 1.039 | 1.065 | 1.070 | 1.057 | 1.222 | 1.329 | 1.348 | 1.344 | 1.126 |
| Size B - 450,000 to 1,200,000 | 1.145 | 1.175 | 1.053 | 1.062 | 1.074 | 1.110 | 1.087 | N/A   | N/A   | N/A   | N/A   | N/A   | 1.101 |
| Size C - 50,000 to 450,000    | 1.018 | 1.027 | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | 1.023 |
| Size D - Non-Metropolitan*    | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   |
| <b>West Urban</b>             | 0.957 | 0.974 | 0.989 | 1.008 | 1.038 | 1.073 | 1.100 | 1.179 | 1.277 | 1.343 | 1.355 | 1.352 | 1.137 |
| Size A - More than 1,250,000  | 0.947 | 0.968 | 0.986 | 1.005 | 1.040 | 1.072 | 1.104 | 1.177 | 1.274 | 1.344 | 1.358 | 1.352 | 1.136 |
| Size C - 50,000 to 330,000    | 0.958 | 0.973 | 0.975 | 1.014 | 1.032 | 1.087 | 1.104 | 1.216 | 1.325 | 1.391 | 1.383 | 1.365 | 1.151 |

\* less than 50,000

(a) These prices are in \$/gal., include federal and state taxes, and are representative full-service, self-service and mini-service. The related local areas and Source: Bureau of Labor Statistics, Dept. of Commerce.

## Retail Gasoline Prices For Selected Areas (a)

| Standard Metropolitan<br>Statistical Areas | 1990         |               |                |              | 1989         |               |                |              | 1988         |               |                |              |
|--------------------------------------------|--------------|---------------|----------------|--------------|--------------|---------------|----------------|--------------|--------------|---------------|----------------|--------------|
|                                            | Lead<br>Reg. | Unid.<br>Reg. | Unid.<br>Prem. | All<br>Types | Lead<br>Reg. | Unid.<br>Reg. | Unid.<br>Prem. | All<br>Types | Lead<br>Reg. | Unid.<br>Reg. | Unid.<br>Prem. | All<br>Types |
| <b>U.S. City Average</b>                   | \$1.149      | \$1.164       | \$1.349        | \$1.217      | \$0.960      | \$1.015       | \$1.200        | \$1.059      | \$0.900      | \$0.946       | \$1.107        | \$0.964      |
| Chicago-Gary-Lake County, IL, IN, WI       | N/A          | 1.278         | 1.471          | 1.334        | 1.010        | 1.107         | 1.308          | 1.143        | 0.982        | 1.016         | 1.201          | 1.044        |
| Los Angeles-Anaheim-Riverside, CA          | 1.123        | 1.140         | 1.333          | 1.181        | 0.696        | 0.986         | 1.186          | 1.010        | 0.894        | 0.910         | 1.105          | 0.933        |
| N.Y.-Northern N.J.-Long Island, NY, NJ, CT | N/A          | 1.157         | 1.386          | 1.250        | 1.004        | 1.039         | 1.243          | 1.114        | 0.919        | 0.958         | 1.144          | 1.020        |
| Phil.-Wilmington-Trenton, PA, NJ, DE, MD   | N/A          | 1.056         | 1.368          | 1.245        | 0.942        | 0.979         | 1.209          | 1.068        | 0.906        | 0.995         | 1.083          | 0.938        |
| San Francisco-Oakland-San Jose, CA         | 1.129        | 1.240         | 1.350          | 1.240        | 0.976        | 1.078         | 1.188          | 1.082        | 0.907        | 1.011         | 1.108          | 1.006        |
| Baltimore, MD                              | N/A          | 1.158         | 1.336          | 1.238        | N/A          | 1.041         | 1.220          | 1.102        | 0.956        | 0.980         | 1.160          | 1.023        |
| Boston-Lawrence-Salem, MA, NH              | N/A          | 1.186         | 1.387          | 1.255        | 0.972        | 1.027         | 1.216          | 1.078        | 0.923        | 0.972         | 1.133          | 1.006        |
| Cleveland-Akron-Lorain, OH                 | N/A          | 1.179         | 1.391          | 1.231        | N/A          | 1.018         | 1.223          | 1.068        | 0.868        | 0.948         | 1.161          | 0.985        |
| Miami-Fort Lauderdale, FL                  | N/A          | 1.099         | 1.275          | 1.174        | N/A          | 0.995         | 1.136          | 1.055        | N/A          | 0.967         | 1.096          | 1.025        |
| St. Louis-East St. Louis, MO, IL           | 0.978        | 1.084         | 1.327          | 1.132        | 0.945        | 0.958         | 1.195          | 0.988        | 0.865        | 0.903         | 1.118          | 0.921        |
| Washington, DC, MD, VA                     | N/A          | 1.250         | 1.509          | 1.328        | N/A          | 1.108         | 1.370          | 1.185        | 0.932        | 1.044         | 1.302          | 1.101        |
| Dallas-Fort Worth, TX                      | N/A          | 1.093         | 1.252          | 1.134        | 0.955        | 0.936         | 1.068          | 0.963        | 0.875        | 0.888         | 1.025          | 0.906        |
| Detroit-Ann Arbor, MI                      | N/A          | 1.156         | 1.301          | 1.173        | 0.948        | 1.026         | 1.153          | 1.033        | 0.911        | 0.969         | 1.114          | 0.967        |
| Houston-Galveston-Brazoria, TX             | N/A          | 1.119         | 1.315          | 1.176        | 0.868        | 0.958         | 1.138          | 1.002        | 0.852        | 0.871         | 1.061          | 0.991        |
| Pittsburgh-Beaver Valley, PA               | N/A          | 1.119         | 1.306          | 1.148        | 0.970        | 0.966         | 1.152          | 0.998        | 0.882        | 0.882         | 1.065          | 0.904        |

Source: Bureau of Labor Statistics, U.S. Dept. of Commerce. (a) See note above.

# Sizes and Regions – 1990 (a)

## Unleaded Regular

| Population Sizes and Regions  | Jan.    | Feb.    | March   | April   | May     | June    | July    | Aug.    | Sept.   | Oct.    | Nov.    | Dec.    | Average<br>Per Year |
|-------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------------------|
| <b>U.S. City Average</b>      | \$1.042 | \$1.037 | \$1.023 | \$1.044 | \$1.061 | \$1.088 | \$1.084 | \$1.790 | \$1.294 | \$1.378 | \$1.377 | \$1.354 | \$1.164             |
| <b>Region Area and Size</b>   |         |         |         |         |         |         |         |         |         |         |         |         |                     |
| Northeast Urban               | 1.038   | 1.046   | 1.023   | 1.019   | 1.027   | 1.065   | 1.075   | 1.166   | 1.295   | 1.401   | 1.437   | 1.431   | 1.169               |
| Size A - More than 1,200,000  | 1.029   | 1.037   | 1.015   | 1.009   | 1.017   | 1.055   | 1.068   | 1.158   | 1.283   | 1.400   | 1.438   | 1.425   | 1.161               |
| Size B - 500,000 to 1,200,000 | 1.081   | 1.085   | 1.076   | 1.062   | 1.074   | 1.110   | 1.114   | 1.203   | 1.336   | 1.439   | 1.473   | 1.472   | 1.210               |
| Size C - 50,000 to 500,000    | 1.017   | 1.036   | 1.000   | 1.007   | 1.022   | 1.059   | 1.062   | 1.161   | 1.292   | 1.365   | 1.390   | 1.405   | 1.151               |
| North Central Urban           | 1.072   | 1.039   | 1.017   | 1.072   | 1.090   | 1.112   | 1.084   | 1.227   | 1.321   | 1.392   | 1.363   | 1.311   | 1.175               |
| Size A - More than 1,200,000  | 1.084   | 1.056   | 1.025   | 1.090   | 1.112   | 1.130   | 1.102   | 1.243   | 1.324   | 1.403   | 1.385   | 1.332   | 1.191               |
| Size B - 360,000 to 1,200,000 | 1.043   | 0.995   | 0.969   | 0.997   | 1.032   | 1.040   | 1.016   | 1.196   | 1.289   | 1.377   | 1.333   | 1.275   | 1.131               |
| Size C - 50,000 to 360,000    | 1.102   | 1.045   | 1.025   | 1.089   | 1.109   | 1.123   | 1.101   | 1.217   | 1.333   | 1.392   | 1.357   | 1.288   | 1.182               |
| Size D - Non-Metropolitan*    | 1.038   | 1.014   | 1.018   | 1.048   | 1.039   | 1.094   | 1.061   | 1.199   | 1.329   | 1.363   | 1.309   | 1.277   | 1.149               |
| South Urban                   | 1.041   | 1.041   | 1.023   | 1.029   | 1.042   | 1.061   | 1.055   | 1.143   | 1.253   | 1.341   | 1.343   | 1.327   | 1.142               |
| Size A - More than 1,200,000  | 1.008   | 1.014   | 1.007   | 1.010   | 1.021   | 1.039   | 1.040   | 1.104   | 1.204   | 1.314   | 1.339   | 1.331   | 1.119               |
| Size B - 450,000 to 1,200,000 | 1.053   | 1.060   | 1.041   | 1.041   | 1.060   | 1.074   | 1.062   | 1.174   | 1.276   | 1.366   | 1.353   | 1.332   | 1.158               |
| Size C - 50,000 to 450,000    | 1.072   | 1.060   | 1.023   | 1.030   | 1.044   | 1.068   | 1.058   | 1.152   | 1.279   | 1.339   | 1.327   | 1.306   | 1.147               |
| Size D - Non-Metropolitan*    | 1.080   | 1.064   | 1.035   | 1.074   | 1.080   | 1.107   | 1.094   | 1.197   | 1.309   | 1.379   | 1.387   | 1.350   | 1.180               |
| West Urban                    | 1.003   | 1.018   | 1.032   | 1.051   | 1.082   | 1.117   | 1.137   | 1.230   | 1.318   | 1.389   | 1.394   | 1.357   | 1.180               |
| Size A - More than 1,250,000  | 0.992   | 1.008   | 1.024   | 1.046   | 1.085   | 1.118   | 1.141   | 1.232   | 1.319   | 1.398   | 1.395   | 1.389   | 1.179               |
| Size C - 50,000 to 330,000    | 0.990   | 1.005   | 1.011   | 1.039   | 1.062   | 1.115   | 1.126   | 1.256   | 1.349   | 1.414   | 1.403   | 1.345   | 1.177               |

## Unleaded Premium

|                               |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| <b>U.S. City Average</b>      | 1.230 | 1.227 | 1.218 | 1.233 | 1.248 | 1.271 | 1.272 | 1.369 | 1.467 | 1.554 | 1.559 | 1.537 | 1.349 |
| <b>Region Area and Size</b>   |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Northeast Urban               | 1.252 | 1.259 | 1.242 | 1.235 | 1.244 | 1.282 | 1.293 | 1.374 | 1.498 | 1.603 | 1.638 | 1.628 | 1.379 |
| Size A - More than 1,200,000  | 1.250 | 1.259 | 1.246 | 1.239 | 1.245 | 1.285 | 1.299 | 1.376 | 1.497 | 1.614 | 1.650 | 1.639 | 1.383 |
| Size B - 500,000 to 1,200,000 | 1.278 | 1.277 | 1.269 | 1.260 | 1.273 | 1.305 | 1.307 | 1.391 | 1.505 | 1.596 | 1.634 | 1.615 | 1.393 |
| Size C - 50,000 to 500,000    | 1.214 | 1.226 | 1.170 | 1.171 | 1.193 | 1.227 | 1.237 | 1.344 | 1.488 | 1.532 | 1.558 | 1.567 | 1.327 |
| North Central Urban           | 1.277 | 1.240 | 1.226 | 1.275 | 1.292 | 1.306 | 1.283 | 1.429 | 1.501 | 1.589 | 1.546 | 1.485 | 1.369 |
| Size A - More than 1,200,000  | 1.322 | 1.289 | 1.265 | 1.317 | 1.337 | 1.346 | 1.329 | 1.447 | 1.516 | 1.585 | 1.577 | 1.519 | 1.404 |
| Size B - 360,000 to 1,200,000 | 1.262 | 1.182 | 1.156 | 1.191 | 1.217 | 1.234 | 1.156 | 1.417 | 1.494 | 1.580 | 1.525 | 1.451 | 1.325 |
| Size C - 50,000 to 360,000    | 1.196 | 1.133 | 1.104 | 1.184 | 1.192 | 1.219 | 1.173 | 1.385 | 1.475 | 1.538 | 1.499 | 1.411 | 1.292 |
| Size D - Non-Metropolitan*    | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   |
| South Urban                   | 1.208 | 1.203 | 1.193 | 1.206 | 1.219 | 1.236 | 1.232 | 1.321 | 1.425 | 1.517 | 1.520 | 1.504 | 1.316 |
| Size A - More than 1,200,000  | 1.190 | 1.193 | 1.185 | 1.200 | 1.208 | 1.227 | 1.229 | 1.296 | 1.387 | 1.497 | 1.519 | 1.507 | 1.303 |
| Size B - 450,000 to 1,200,000 | 1.205 | 1.209 | 1.210 | 1.215 | 1.233 | 1.245 | 1.240 | 1.340 | 1.436 | 1.532 | 1.525 | 1.506 | 1.325 |
| Size C - 50,000 to 450,000    | 1.250 | 1.240 | 1.191 | 1.200 | 1.211 | 1.233 | 1.225 | 1.320 | 1.446 | 1.515 | 1.499 | 1.488 | 1.318 |
| Size D - Non-Metropolitan*    | 1.227 | 1.212 | 1.160 | 1.214 | 1.229 | 1.241 | 1.234 | 1.365 | 1.479 | 1.547 | 1.556 | 1.522 | 1.332 |
| West Urban                    | 1.206 | 1.214 | 1.232 | 1.245 | 1.272 | 1.298 | 1.318 | 1.401 | 1.479 | 1.548 | 1.557 | 1.552 | 1.360 |
| Size A - More than 1,250,000  | 1.197 | 1.214 | 1.234 | 1.249 | 1.280 | 1.304 | 1.326 | 1.410 | 1.481 | 1.557 | 1.559 | 1.551 | 1.364 |
| Size C - 50,000 to 330,000    | 1.173 | 1.177 | 1.186 | 1.216 | 1.234 | 1.281 | 1.307 | 1.409 | 1.502 | 1.542 | 1.540 | 1.513 | 1.340 |

\* less than 50,000

population groups are Standard Metropolitan Statistical Areas as defined by BLS and the U.S. Census Bureau.

## Wholesale Price Trends Through 1990

| Year     | Refinery Products in Eight Refinery Markets Representing Total U.S. |                    |                         |                         |                                              | Crude                     |                                  |
|----------|---------------------------------------------------------------------|--------------------|-------------------------|-------------------------|----------------------------------------------|---------------------------|----------------------------------|
|          | Motor<br>Gasoline<br>¢/gal.                                         | Kerosine<br>¢/gal. | Light<br>Fuel<br>¢/gal. | Heavy<br>Fuel<br>¢/gal. | Average four products<br>¢/gal.      \$/bbl. | Eight<br>Areas<br>\$/bbl. | Products<br>vs. Crude<br>\$/bbl. |
| 1990 (a) | \$72.13                                                             | \$73.37            | \$67.82                 | \$50.99                 | \$65.20      \$27.38                         | \$19.91                   | \$7.47                           |
| 1989     | 59.15                                                               | 60.78              | 56.02                   | 40.87                   | 43.76      18.38                             | 15.85                     | 2.53                             |
| 1988     | 50.31                                                               | 50.72              | 46.10                   | 38.72                   | 46.22      19.41                             | 12.58                     | 6.83                             |
| 1987     | 53.22                                                               | 56.75              | 52.25                   | 45.36                   | 50.89      21.37                             | 15.41                     | 5.96                             |
| 1986     | 47.74                                                               | 49.92              | 44.91                   | 36.23                   | 43.97      18.47                             | 12.51                     | 5.96                             |
| 1985     | 81.11                                                               | 81.69              | 76.66                   | 56.41                   | 73.06      30.69                             | 24.09                     | 6.60                             |
| 1984     | 81.14                                                               | 84.75              | 79.62                   | 59.14                   | 74.49      31.29                             | 25.88                     | 5.41                             |
| 1983     | 86.97                                                               | 85.12              | 80.05                   | 57.30                   | 76.94      32.31                             | 26.19                     | 6.12                             |
| 1982     | 94.56                                                               | 97.18              | 91.95                   | 57.80                   | 83.27      34.97                             | 28.52                     | 6.45                             |
| 1981     | 101.63                                                              | 101.03             | 97.20                   | 61.17                   | 88.75      37.28                             | 31.77                     | 5.51                             |

(a) Preliminary.

Source: Independent Petroleum Assn. of America. Product figures reflect trends in prices but not the actual sales realization for producers or refiners.

# Retail Gasoline Prices by Months and Grades

## All Types

| Selected Local Areas                       | Jan.    | Feb.    | Mar.    | Apr.    | May     | June    | July    | Aug.    | Sept.   | Oct.    | Nov.    | Dec.    | Avg. Per Year |
|--------------------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------------|
| Chicago-Gary-Lake County, IL, IN, WI       | \$1.236 | \$1.212 | \$1.173 | \$1.233 | \$1.250 | \$1.282 | \$1.258 | \$1.374 | \$1.425 | \$1.534 | \$1.531 | \$1.502 | \$1.334       |
| Los Angeles-Anaheim-Riverside, CA          | 0.957   | 0.988   | 1.014   | 1.030   | 1.080   | 1.103   | 1.133   | 1.282   | 1.346   | 1.416   | 1.421   | 1.407   | 1.181         |
| N.Y.-Northern N.J.-Long Island, NY, NJ, CT | 1.122   | 1.125   | 1.101   | 1.096   | 1.101   | 1.155   | 1.178   | 1.229   | 1.355   | 1.486   | 1.527   | 1.521   | 1.250         |
| Phil.-Wilmington-Trenton, PA, NJ, DE, MD   | 1.105   | 1.115   | 1.108   | 1.108   | 1.118   | 1.148   | 1.154   | 1.228   | 1.360   | 1.484   | 1.506   | 1.508   | 1.245         |
| San Francisco-Oakland-San Jose, CA         | 1.053   | 1.070   | 1.091   | 1.115   | 1.161   | 1.193   | 1.211   | 1.295   | 1.352   | 1.417   | 1.449   | 1.470   | 1.240         |
| Baltimore, MD                              | 1.150   | 1.152   | 1.146   | 1.139   | 1.140   | 1.147   | 1.150   | 1.186   | 1.294   | 1.435   | 1.456   | 1.460   | 1.238         |
| Boston-Lawrence-Salem, MA, NH              | 1.115   | 1.132   | 1.127   | 1.116   | 1.117   | 1.120   | 1.131   | 1.280   | 1.383   | 1.490   | 1.542   | 1.505   | 1.255         |
| Cleveland-Akron-Lorain, OH                 | 1.149   | 1.114   | 1.082   | 1.093   | 1.132   | 1.157   | 1.138   | 1.267   | 1.371   | 1.461   | 1.429   | 1.374   | 1.231         |
| Miami-Fort Lauderdale, FL                  | 1.073   | 1.086   | 1.085   | 1.092   | 1.093   | 1.106   | 1.103   | 1.162   | 1.224   | 1.333   | 1.362   | 1.368   | 1.174         |
| St. Louis-East St. Louis, MO, IL           | 1.027   | 1.012   | 0.982   | 1.037   | 1.041   | 1.075   | 1.053   | 1.136   | 1.266   | 1.342   | 1.328   | 1.285   | 1.132         |
| Washington, DC, MD, VA                     | 1.234   | 1.231   | 1.228   | 1.226   | 1.229   | 1.241   | 1.242   | 1.306   | 1.393   | 1.521   | 1.540   | 1.547   | 1.328         |
| Dallas-Fort Worth, TX                      | 0.952   | 0.996   | 0.985   | 1.003   | 1.024   | 1.058   | 1.058   | 1.102   | 1.234   | 1.334   | 1.418   | 1.402   | 1.134         |
| Detroit-Ann Arbor, MI                      | 1.064   | 1.050   | 0.991   | 1.087   | 1.087   | 1.112   | 1.066   | 1.203   | 1.328   | 1.400   | 1.380   | 1.303   | 1.173         |
| Houston-Galveston-Brazoria, TX             | 1.027   | 1.056   | 1.051   | 1.058   | 1.075   | 1.100   | 1.107   | 1.145   | 1.265   | 1.385   | 1.424   | 1.415   | 1.176         |
| Pittsburgh-Beaver Valley, PA               | 1.024   | 1.027   | 1.007   | 1.014   | 1.032   | 1.066   | 1.059   | 1.164   | 1.269   | 1.358   | 1.385   | 1.376   | 1.148         |

## Leaded Regular

|                                            |       |       |       |       |       |       |       |       |       |       |       |       |       |
|--------------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Chicago-Gary-Lake County, IL, IN, WI       | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   |
| Los Angeles-Anaheim-Riverside, CA          | 0.913 | 0.949 | 0.973 | 0.987 | 1.030 | 1.060 | 1.100 | 1.201 | 1.270 | 1.332 | 1.338 | 1.322 | 1.123 |
| N.Y.-Northern N.J.-Long Island, NY, NJ, CT | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   |
| Phil.-Wilmington-Trenton, PA, NJ, DE, MD   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   |
| San Francisco-Oakland-San Jose, CA         | 0.938 | 0.962 | 0.974 | 1.003 | 1.046 | 1.075 | 1.097 | 1.179 | 1.258 | 1.309 | 1.343 | 1.369 | 1.129 |
| Baltimore, MD                              | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   |
| Boston-Lawrence-Salem, MA, NH              | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   |
| Cleveland-Akron-Lorain, OH                 | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   |
| Miami-Fort Lauderdale, FL                  | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   |
| St. Louis-East St. Louis, MO, IL           | 1.003 | 0.978 | 0.953 | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | 0.976 |
| Washington, DC, MD, VA                     | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   |
| Dallas-Fort Worth, TX                      | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   |
| Detroit-Ann Arbor, MI                      | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   |
| Houston-Galveston-Brazoria, TX             | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   |
| Pittsburgh-Beaver Valley, PA               | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   |

## Unleaded Regular

|                                            |       |       |       |       |       |       |       |       |       |       |       |       |       |
|--------------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Chicago-Gary-Lake County, IL, IN, WI       | 1.190 | 1.165 | 1.109 | 1.169 | 1.188 | 1.227 | 1.199 | 1.314 | 1.364 | 1.479 | 1.478 | 1.456 | 1.278 |
| Los Angeles-Anaheim-Riverside, CA          | 0.927 | 0.955 | 0.983 | 1.002 | 1.056 | 1.076 | 1.103 | 1.218 | 1.289 | 1.361 | 1.363 | 1.350 | 1.140 |
| N.Y.-Northern N.J.-Long Island, NY, NJ, CT | 1.041 | 1.040 | 1.003 | 0.998 | 1.003 | 1.056 | 1.081 | 1.135 | 1.261 | 1.395 | 1.439 | 1.428 | 1.157 |
| Phil.-Wilmington-Trenton, PA, NJ, DE, MD   | 0.995 | 1.007 | 0.994 | 0.993 | 1.004 | 1.039 | 1.043 | 1.121 | 1.263 | 1.381 | 1.409 | 1.414 | 1.056 |
| San Francisco-Oakland-San Jose, CA         | 1.048 | 1.062 | 1.088 | 1.112 | 1.164 | 1.199 | 1.213 | 1.291 | 1.349 | 1.420 | 1.453 | 1.480 | 1.240 |
| Baltimore, MD                              | 1.081 | 1.074 | 1.065 | 1.059 | 1.058 | 1.067 | 1.069 | 1.101 | 1.216 | 1.357 | 1.373 | 1.377 | 1.158 |
| Boston-Lawrence-Salem, MA, NH              | 1.040 | 1.063 | 1.055 | 1.040 | 1.043 | 1.052 | 1.057 | 1.210 | 1.322 | 1.427 | 1.475 | 1.442 | 1.186 |
| Cleveland-Akron-Lorain, OH                 | 1.102 | 1.065 | 1.032 | 1.039 | 1.073 | 1.101 | 1.080 | 1.211 | 1.318 | 1.414 | 1.382 | 1.328 | 1.179 |
| Miami-Fort Lauderdale, FL                  | 1.000 | 1.010 | 1.013 | 1.019 | 1.018 | 1.028 | 1.022 | 1.085 | 1.147 | 1.258 | 1.284 | 1.299 | 1.099 |
| St. Louis-East St. Louis, MO, IL           | 0.982 | 0.970 | 0.936 | 0.991 | 0.998 | 1.032 | 1.007 | 1.090 | 1.222 | 1.281 | 1.266 | 1.227 | 1.084 |
| Washington, DC, MD, VA                     | 1.149 | 1.144 | 1.142 | 1.135 | 1.141 | 1.156 | 1.157 | 1.226 | 1.321 | 1.449 | 1.460 | 1.459 | 1.250 |
| Dallas-Fort Worth, TX                      | 0.950 | 0.959 | 0.944 | 0.962 | 0.988 | 1.022 | 1.020 | 1.063 | 1.196 | 1.300 | 1.365 | 1.349 | 1.093 |
| Detroit-Ann Arbor, MI                      | 1.047 | 1.042 | 0.980 | 1.070 | 1.068 | 1.095 | 1.049 | 1.179 | 1.309 | 1.382 | 1.364 | 1.290 | 1.156 |
| Houston-Galveston-Brazoria, TX             | 0.972 | 1.005 | 0.998 | 1.000 | 1.018 | 1.043 | 1.054 | 1.087 | 1.209 | 1.325 | 1.360 | 1.358 | 1.119 |
| Pittsburgh-Beaver Valley, PA               | 0.994 | 0.997 | 0.975 | 0.982 | 1.001 | 1.037 | 1.028 | 1.135 | 1.242 | 1.329 | 1.356 | 1.346 | 1.119 |

## Unleaded Premium

|                                            |       |       |       |       |       |       |       |       |       |       |       |       |       |
|--------------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Chicago-Gary-Lake County, IL, IN, WI       | 1.415 | 1.395 | 1.305 | 1.364 | 1.381 | 1.404 | 1.388 | 1.500 | 1.556 | 1.661 | 1.660 | 1.618 | 1.471 |
| Los Angeles-Anaheim-Riverside, CA          | 1.147 | 1.176 | 1.203 | 1.214 | 1.253 | 1.272 | 1.302 | 1.396 | 1.455 | 1.530 | 1.528 | 1.516 | 1.333 |
| N.Y.-Northern N.J.-Long Island, NY, NJ, CT | 1.253 | 1.264 | 1.240 | 1.236 | 1.242 | 1.300 | 1.317 | 1.368 | 1.496 | 1.618 | 1.650 | 1.647 | 1.386 |
| Phil.-Wilmington-Trenton, PA, NJ, DE, MD   | 1.242 | 1.243 | 1.243 | 1.235 | 1.246 | 1.273 | 1.276 | 1.342 | 1.463 | 1.589 | 1.632 | 1.626 | 1.368 |
| San Francisco-Oakland-San Jose, CA         | 1.171 | 1.186 | 1.206 | 1.236 | 1.271 | 1.303 | 1.325 | 1.419 | 1.451 | 1.522 | 1.551 | 1.559 | 1.350 |
| Baltimore, MD                              | 1.246 | 1.245 | 1.242 | 1.235 | 1.238 | 1.244 | 1.247 | 1.289 | 1.395 | 1.532 | 1.557 | 1.556 | 1.336 |
| Boston-Lawrence-Salem, MA, NH              | 1.245 | 1.268 | 1.266 | 1.250 | 1.247 | 1.252 | 1.268 | 1.408 | 1.514 | 1.621 | 1.673 | 1.637 | 1.387 |
| Cleveland-Akron-Lorain, OH                 | 1.310 | 1.280 | 1.248 | 1.271 | 1.316 | 1.332 | 1.308 | 1.427 | 1.525 | 1.598 | 1.568 | 1.510 | 1.391 |
| Miami-Fort Lauderdale, FL                  | 1.169 | 1.187 | 1.180 | 1.188 | 1.192 | 1.208 | 1.209 | 1.263 | 1.331 | 1.438 | 1.470 | 1.464 | 1.275 |
| St. Louis-East St. Louis, MO, IL           | 1.252 | 1.240 | 1.212 | 1.246 | 1.254 | 1.283 | 1.268 | 1.328 | 1.469 | 1.479 | 1.470 | 1.418 | 1.327 |
| Washington, DC, MD, VA                     | 1.423 | 1.425 | 1.418 | 1.427 | 1.421 | 1.427 | 1.426 | 1.475 | 1.544 | 1.672 | 1.710 | 1.734 | 1.509 |
| Dallas-Fort Worth, TX                      | 1.112 | 1.114 | 1.111 | 1.133 | 1.150 | 1.183 | 1.190 | 1.235 | 1.363 | 1.451 | 1.502 | 1.485 | 1.252 |
| Detroit-Ann Arbor, MI                      | 1.194 | 1.139 | 1.128 | 1.216 | 1.226 | 1.235 | 1.186 | 1.380 | 1.473 | 1.533 | 1.502 | 1.393 | 1.301 |
| Houston-Galveston-Brazoria, TX             | 1.165 | 1.191 | 1.186 | 1.195 | 1.211 | 1.240 | 1.238 | 1.291 | 1.400 | 1.528 | 1.581 | 1.556 | 1.315 |
| Pittsburgh-Beaver Valley, PA               | 1.183 | 1.189 | 1.178 | 1.178 | 1.196 | 1.218 | 1.221 | 1.317 | 1.415 | 1.512 | 1.537 | 1.526 | 1.306 |

a) These prices are in \$/gal., include federal and state taxes and are representative of full-service, self-service and mini-service. The related local areas and population groups are Standard Metropolitan Statistical Areas as defined by BLS and the U.S. Census Bureau.  
Source: Bureau of Labor Statistics, Dept. of Commerce.

# Supplier Gasoline Prices, by Type of Seller

(¢ per gal., excluding taxes)

| Year<br>Month | Major Refiners                |                               |                        | Other Refiners                |                               |                        | Average                       |                               |                        |
|---------------|-------------------------------|-------------------------------|------------------------|-------------------------------|-------------------------------|------------------------|-------------------------------|-------------------------------|------------------------|
|               | Sales to End-Users            |                               |                        | Sales to End-Users            |                               |                        | Sales to End-Users            |                               |                        |
|               | Through<br>Company<br>Outlets | Through<br>Other<br>End-Users | Sales<br>for<br>Resale | Through<br>Company<br>Outlets | Through<br>Other<br>End-Users | Sales<br>for<br>Resale | Through<br>Company<br>Outlets | Through<br>Other<br>End-Users | Sales<br>for<br>Resale |
| <b>1990</b>   |                               |                               |                        |                               |                               |                        |                               |                               |                        |
| January       | 80.3                          | 69.8                          | 70.6                   | 75.6                          | 66.6                          | 64.2                   | 79.2                          | 68.8                          | 69.2                   |
| February      | 77.9                          | 68.1                          | 68.5                   | 74.3                          | 66.9                          | 62.3                   | 77.0                          | 67.8                          | 67.2                   |
| March         | 76.5                          | 66.6                          | 67.6                   | 72.4                          | 65.5                          | 61.8                   | 75.5                          | 66.3                          | 66.3                   |
| April         | 79.0                          | 71.0                          | 70.9                   | 75.8                          | 69.3                          | 65.6                   | 78.2                          | 70.6                          | 69.7                   |
| May           | 81.4                          | 73.7                          | 73.9                   | 78.1                          | 72.2                          | 68.5                   | 80.6                          | 73.3                          | 72.6                   |
| June          | 82.5                          | 74.2                          | 73.8                   | 79.7                          | NA                            | 67.1                   | 81.8                          | 73.8                          | 72.2                   |
| July          | 82.0                          | 71.1                          | 72.3                   | 79.0                          | 65.9                          | 65.1                   | 81.3                          | 69.4                          | 70.6                   |
| August        | 92.6                          | 85.0                          | 86.1                   | 92.8                          | 84.1                          | 84.0                   | 92.7                          | 84.8                          | 85.6                   |
| September     | 101.3                         | 96.7                          | 95.3                   | 101.5                         | 85.3                          | 93.7                   | 101.4                         | 92.8                          | 95.0                   |
| October       | 109.5                         | 100.4                         | 100.0                  | 107.7                         | 98.9                          | 93.8                   | 109.1                         | 100.1                         | 98.6                   |
| November      | 108.2                         | 97.1                          | 97.3                   | 105.9                         | 95.0                          | 89.4                   | 107.6                         | 96.7                          | 95.4                   |
| December      | 99.9                          | 82.8                          | 82.3                   | 97.5                          | 81.2                          | 73.0                   | 99.3                          | 82.5                          | 80.3                   |
| 1990 Avg.     | 89.3                          | 79.6                          | 79.9                   | 87.0                          | 75.4                          | 74.0                   | 88.7                          | 78.4                          | 78.6                   |
| <b>1989</b>   |                               |                               |                        |                               |                               |                        |                               |                               |                        |
| January       | 67.5                          | 56.4                          | 57.9                   | 62.7                          | 51.8                          | 51.0                   | 66.4                          | 54.7                          | 56.3                   |
| February      | 68.0                          | 58.1                          | 58.8                   | 63.1                          | 53.3                          | 52.6                   | 66.8                          | 56.1                          | 57.4                   |
| March         | 70.2                          | 60.8                          | 62.4                   | 65.5                          | 58.1                          | 57.0                   | 69.1                          | 59.8                          | 61.2                   |
| April         | 82.8                          | 74.9                          | 75.0                   | 79.9                          | 75.9                          | 70.4                   | 82.1                          | 75.3                          | 74.0                   |
| May           | 87.0                          | 77.5                          | 77.5                   | 83.8                          | 74.0                          | 72.3                   | 86.2                          | 76.2                          | 76.3                   |
| June          | 85.9                          | 75.4                          | 75.2                   | 82.4                          | 73.7                          | 69.4                   | 85.1                          | 74.8                          | 73.8                   |
| July          | 83.5                          | 70.3                          | 70.6                   | 80.8                          | 65.7                          | 63.7                   | 82.9                          | 68.5                          | 69.0                   |
| August        | 78.1                          | 63.5                          | 64.5                   | 75.4                          | 58.9                          | 56.6                   | 77.5                          | 61.8                          | 62.7                   |
| September     | 76.1                          | 66.1                          | 66.9                   | 73.5                          | 64.2                          | 61.7                   | 75.5                          | 65.5                          | 65.7                   |
| October       | 76.0                          | 66.0                          | 65.6                   | 72.9                          | 63.6                          | 59.7                   | 75.3                          | 65.2                          | 64.2                   |
| November      | 74.2                          | 62.6                          | 62.9                   | 70.3                          | 59.8                          | 56.2                   | 73.3                          | 61.9                          | 61.4                   |
| December      | 73.6                          | 61.7                          | 63.0                   | 69.2                          | 59.9                          | 56.4                   | 72.6                          | 61.3                          | 61.6                   |
| 1989 Avg.     | 77.1                          | 66.2                          | 66.8                   | 73.5                          | 63.3                          | 60.8                   | 76.3                          | 65.2                          | 65.4                   |
| 1988 Avg.     | 69.2                          | 57.8                          | 59.3                   | 65.2                          | 54.1                          | 52.7                   | 68.1                          | 56.4                          | 57.7                   |
| 1987 Avg.     | 68.7                          | 59.2                          | 60.1                   | 65.3                          | 55.2                          | 55.0                   | 67.8                          | 57.5                          | 58.9                   |
| 1986 Avg.     | 64.1                          | 57.6                          | 54.4                   | 61.2                          | 52.7                          | 48.7                   | 63.2                          | 55.8                          | 53.1                   |
| 1984 Avg.     | 92.0                          | 85.7                          | 84.2                   | 90.0                          | 84.9                          | 80.2                   | 91.4                          | 85.6                          | 83.2                   |

Source: Energy Information Administration, Petroleum Marketing Monthly, Table 13, March 1991.

# Supplier Gasoline Prices, by Grade and Type

(¢ per gal., excluding taxes)

| Year<br>Month | Leaded Regular                |                        |                        | Unleaded Regular              |                        |                        | Unleaded Midgrade             |                        |                        | Premium                       |                        |                        |
|---------------|-------------------------------|------------------------|------------------------|-------------------------------|------------------------|------------------------|-------------------------------|------------------------|------------------------|-------------------------------|------------------------|------------------------|
|               | Sales to End-Users            |                        |                        | Sales to End-Users            |                        |                        | Sales to End-Users            |                        |                        | Sales to End-Users            |                        |                        |
|               | Through<br>Company<br>Outlets | Other<br>End-<br>Users | Sales<br>for<br>Resale | Through<br>Company<br>Outlets | Other<br>End-<br>Users | Sales<br>for<br>Resale | Through<br>Company<br>Outlets | Other<br>End-<br>Users | Sales<br>for<br>Resale | Through<br>Company<br>Outlets | Other<br>End-<br>Users | Sales<br>for<br>Resale |
| <b>1990</b>   |                               |                        |                        |                               |                        |                        |                               |                        |                        |                               |                        |                        |
| January       | 71.3                          | 64.4                   | 63.8                   | 74.4                          | 66.8                   | 65.5                   | 84.1                          | 74.5                   | 73.1                   | 91.6                          | 77.5                   | 78.9                   |
| February      | 71.1                          | 65.7                   | 63.2                   | 72.3                          | 65.4                   | 63.4                   | 80.7                          | 71.3                   | 70.4                   | 89.2                          | 76.3                   | 77.4                   |
| March         | 71.3                          | 66.3                   | 64.0                   | 70.5                          | 63.9                   | 62.6                   | 78.6                          | 69.5                   | 68.6                   | 87.8                          | 74.5                   | 76.0                   |
| April         | 73.6                          | 68.0                   | 67.5                   | 73.4                          | 68.0                   | 66.0                   | 81.4                          | 73.8                   | 71.9                   | 90.3                          | 77.6                   | 79.4                   |
| May           | 75.9                          | 71.3                   | 70.3                   | 75.9                          | 70.5                   | 69.1                   | 83.8                          | 76.7                   | 74.7                   | 92.6                          | 81.6                   | 82.6                   |
| June          | 78.7                          | NA                     | 71.5                   | 77.1                          | 71.6                   | 68.4                   | 84.9                          | 73.7                   | 74.0                   | 94.0                          | 82.1                   | 82.9                   |
| July          | 80.1                          | NA                     | 71.0                   | 76.3                          | 67.0                   | 66.5                   | 83.9                          | 75.1                   | 72.5                   | 93.6                          | 77.8                   | 82.0                   |
| August        | 89.8                          | 81.5                   | 85.1                   | 89.1                          | 82.4                   | 82.8                   | 95.9                          | 88.8                   | 87.2                   | 104.2                         | 93.9                   | 94.9                   |
| September     | 96.9                          | NA                     | 92.9                   | 98.1                          | 91.7                   | 92.5                   | 105.4                         | 100.1                  | 97.1                   | 113.5                         | 100.6                  | 104.5                  |
| October       | 103.1                         | 97.5                   | 96.2                   | 105.9                         | 98.0                   | 95.7                   | 114.0                         | 104.2                  | 102.7                  | 121.8                         | 109.4                  | 109.8                  |
| November      | 103.1                         | 94.7                   | 93.2                   | 104.2                         | 94.5                   | 92.5                   | 112.5                         | 100.1                  | 99.6                   | 120.3                         | 105.0                  | 106.7                  |
| December      | 97.3                          | 82.2                   | 80.4                   | 95.8                          | 80.3                   | 77.2                   | 103.4                         | 85.3                   | 84.2                   | 110.8                         | 91.1                   | 91.4                   |
| 1990 Avg.     | 83.4                          | 72.3                   | 75.4                   | 85.3                          | 76.5                   | 75.8                   | 92.4                          | 84.0                   | 81.4                   | 98.9                          | 85.6                   | 87.4                   |
| <b>1989</b>   |                               |                        |                        |                               |                        |                        |                               |                        |                        |                               |                        |                        |
| January       | 60.1                          | 51.6                   | 52.4                   | 61.9                          | 52.5                   | 52.4                   | 71.7                          | 64.0                   | 62.3                   | 78.3                          | 63.8                   | 66.7                   |
| February      | 61.1                          | 55.0                   | 54.0                   | 62.3                          | 53.9                   | 53.5                   | 71.4                          | 64.1                   | 62.9                   | 78.8                          | 65.1                   | 67.3                   |
| March         | 64.0                          | 60.6                   | 58.6                   | 64.7                          | 57.4                   | 57.5                   | 73.0                          | 60.3                   | 64.6                   | 80.8                          | 69.3                   | 70.5                   |
| April         | 78.5                          | 76.9                   | 72.7                   | 78.6                          | 72.6                   | 70.6                   | 85.3                          | 81.9                   | 78.7                   | 92.7                          | 83.9                   | 83.6                   |
| May           | 82.5                          | 74.8                   | 74.1                   | 82.6                          | 73.7                   | 73.0                   | 89.3                          | 83.7                   | 78.7                   | 97.1                          | 84.9                   | 86.0                   |
| June          | 81.5                          | 74.3                   | 72.3                   | 81.2                          | 72.6                   | 70.4                   | 88.2                          | 79.9                   | 76.3                   | 96.4                          | 82.9                   | 83.2                   |
| July          | 80.1                          | 67.1                   | 67.8                   | 78.6                          | 66.3                   | 65.3                   | 85.4                          | 72.0                   | 71.7                   | 94.2                          | 77.3                   | 79.2                   |
| August        | 75.0                          | 69.5                   | 60.0                   | 72.9                          | 59.4                   | 58.8                   | 79.7                          | 68.8                   | 66.2                   | 89.1                          | 69.9                   | 73.1                   |
| September     | 71.8                          | 64.1                   | 63.6                   | 70.9                          | 63.2                   | 62.1                   | 78.0                          | 70.0                   | 68.5                   | 87.1                          | 73.2                   | 75.2                   |
| October       | 70.9                          | 63.4                   | 61.7                   | 68.3                          | 63.1                   | 60.5                   | 77.9                          | 67.7                   | 67.0                   | 86.9                          | 72.4                   | 74.0                   |
| November      | 68.6                          | 61.1                   | 58.9                   | 68.3                          | 59.5                   | 57.5                   | 76.2                          | 65.4                   | 64.3                   | 85.1                          | 69.5                   | 71.0                   |
| December      | 67.4                          | 60.9                   | 58.3                   | 67.3                          | 58.7                   | 57.5                   | 75.5                          | 64.7                   | 64.7                   | 84.6                          | 69.7                   | 71.0                   |
| 1989 Avg.     | 71.6                          | 64.4                   | 63.1                   | 72.0                          | 62.9                   | 61.8                   | 79.8                          | 69.5                   | 68.6                   | 87.4                          | 73.7                   | 74.9                   |
| 1988 Avg.     | 62.4                          | 55.5                   | 54.8                   | 64.9                          | 55.0                   | 54.8                   | NA                            | NA                     | NA                     | 79.4                          | 64.9                   | 67.2                   |
| 1987 Avg.     | 62.3                          | 57.4                   | 56.5                   | 65.9                          | 56.4                   | 56.9                   | NA                            | NA                     | NA                     | 79.0                          | 65.4                   | 67.1                   |
| 1986 Avg.     | 57.8                          | 54.4                   | 50.1                   | 62.4                          | 54.9                   | 52.2                   | NA                            | NA                     | NA                     | 74.8                          | 63.0                   | 61.0                   |
| 1984 Avg.     | 85.1                          | 82.8                   | 79.5                   | 92.2                          | 86.5                   | 84.2                   | N/A                           | N/A                    | N/A                    | 102.1                         | 93.7                   | 91.6                   |

Source: Energy Information Administration, Petroleum Marketing Monthly, Table 11, March 1991.



# Supplier Product Prices for Resale

(¢ per gal., excluding taxes)

| Year<br>Month | Motor<br>Gasolines | Aviation<br>Gasolines | Kerosine-<br>Type<br>Jet Fuel | Propane<br>(Consumer<br>Grade) | Kerosine | No. 2 Distillate    |                   |                     |         |      | No. 4<br>Fuel (a) | Residual<br>Fuel Oil |
|---------------|--------------------|-----------------------|-------------------------------|--------------------------------|----------|---------------------|-------------------|---------------------|---------|------|-------------------|----------------------|
|               |                    |                       |                               |                                |          | No. 1<br>Distillate | No. 2<br>Fuel Oil | No. 2<br>Diesel Oil | Average |      |                   |                      |
| 1990          |                    |                       |                               |                                |          |                     |                   |                     |         |      |                   |                      |
| January       | 69.2               | 96.8                  | 77.0                          | 54.5                           | 87.0     | 78.6                | 73.8              | 69.3                | 71.7    | 65.3 | 48.1              |                      |
| February      | 67.2               | 95.0                  | 66.9                          | 34.0                           | 67.9     | 65.8                | 57.7              | 57.1                | 57.4    | 53.6 | 38.2              |                      |
| March         | 66.3               | 93.8                  | 61.7                          | 27.1                           | 64.8     | 67.2                | 57.9              | 57.7                | 57.8    | 51.6 | 34.4              |                      |
| April         | 69.7               | 96.4                  | 59.9                          | 25.2                           | 62.4     | 66.2                | 57.5              | 57.5                | 57.5    | 50.4 | 33.3              |                      |
| May           | 72.6               | 97.4                  | 57.4                          | 24.0                           | 59.2     | 62.8                | 54.5              | 55.4                | 55.0    | 43.5 | 30.5              |                      |
| June          | 72.2               | 99.6                  | 54.8                          | 24.9                           | 53.9     | 57.6                | 49.4              | 50.5                | 50.1    | 44.0 | 27.2              |                      |
| July          | 70.6               | 100.2                 | 56.0                          | 27.3                           | 57.1     | 59.9                | 51.9              | 52.0                | 51.9    | 43.4 | 29.1              |                      |
| August        | 85.6               | 110.4                 | 71.3                          | 36.3                           | 80.7     | 82.5                | 72.1              | 73.7                | 73.0    | 63.3 | 44.4              |                      |
| September     | 95.0               | 122.3                 | 93.2                          | 43.6                           | 100.4    | 96.9                | 85.2              | 87.3                | 86.3    | 62.5 | 50.8              |                      |
| October       | 98.6               | 127.9                 | 114.4                         | 53.5                           | 115.6    | 112.0               | 95.0              | 99.4                | 97.3    | 74.9 | 57.3              |                      |
| November      | 95.4               | 126.2                 | 107.0                         | 50.5                           | 106.5    | 107.1               | 90.7              | 93.6                | 92.1    | 79.6 | 55.6              |                      |
| December      | 80.3               | 116.1                 | 90.3                          | 44.5                           | 92.6     | 89.5                | 81.0              | 79.9                | 80.5    | 72.1 | 49.2              |                      |
| 1990 Average  | 78.6               | 106.3                 | 77.3                          | 38.6                           | 83.9     | 84.5                | 69.7              | 69.4                | 69.8    | 58.5 | 41.2              |                      |
| 1989          |                    |                       |                               |                                |          |                     |                   |                     |         |      |                   |                      |
| January       | 56.3               | 84.8                  | 56.2                          | 24.0                           | 63.1     | 59.7                | 53.2              | 51.1                | 52.3    | 45.7 | 32.8              |                      |
| February      | 57.4               | 86.0                  | 55.4                          | 22.7                           | 59.5     | 58.2                | 51.1              | 52.8                | 51.9    | 43.5 | 33.2              |                      |
| March         | 61.2               | 86.6                  | 56.5                          | 22.5                           | 61.3     | 61.8                | 54.4              | 56.0                | 55.2    | 44.0 | 32.1              |                      |
| April         | 74.0               | 94.2                  | 59.5                          | 22.7                           | 60.3     | 66.9                | 56.5              | 59.5                | 58.1    | 56.0 | 38.1              |                      |
| May           | 76.3               | 101.8                 | 56.6                          | 22.1                           | 55.9     | 62.0                | 52.6              | 54.0                | 53.4    | 43.9 | 37.6              |                      |
| June          | 73.8               | 101.3                 | 54.4                          | 21.4                           | 53.8     | 57.9                | 49.6              | 50.8                | 50.3    | 46.7 | 35.5              |                      |
| July          | 69.0               | 100.9                 | 53.5                          | 20.7                           | 57.0     | 58.5                | 50.4              | 50.5                | 50.5    | 44.1 | 35.7              |                      |
| August        | 62.7               | 97.7                  | 54.5                          | 21.7                           | 59.9     | 60.9                | 51.2              | 52.4                | 51.9    | 41.6 | 34.4              |                      |
| September     | 65.7               | 96.2                  | 58.6                          | 23.1                           | 63.6     | 66.8                | 56.4              | 58.5                | 57.6    | 49.1 | 35.1              |                      |
| October       | 64.2               | 93.3                  | 63.2                          | 24.4                           | 67.5     | 69.9                | 60.1              | 62.2                | 61.3    | 51.1 | 36.9              |                      |
| November      | 61.4               | 92.5                  | 63.4                          | 24.3                           | 68.5     | 70.9                | 60.4              | 62.0                | 61.2    | 50.3 | 36.6              |                      |
| December      | 61.6               | 92.8                  | 67.3                          | 36.4                           | 81.7     | 78.2                | 72.8              | 68.4                | 70.8    | 58.1 | 42.1              |                      |
| 1989 Average  | 65.4               | 95.0                  | 58.3                          | 24.7                           | 66.9     | 66.8                | 56.5              | 56.7                | 56.6    | 48.0 | 36.0              |                      |
| 1988 Average  | 57.7               | 85.0                  | 49.5                          | 24.0                           | 54.9     | 54.9                | 47.3              | 47.3                | 47.3    | 42.5 | 0.0               |                      |
| 1987 Average  | 58.9               | 85.9                  | 53.8                          | 25.2                           | 59.2     | 59.9                | 52.7              | 53.4                | 53.1    | 46.2 | 38.5              |                      |
| 1986 Average  | 53.1               | 91.2                  | 49.5                          | 29.0                           | 60.6     | 57.9                | 48.6              | 45.2                | 47.0    | 40.9 | 30.5              |                      |
| 1984 Average  | 83.2               | 116.5                 | 83.0                          | 45.0                           | 91.6     | 89.2                | 82.1              | 80.3                | 81.3    | 70.7 | 65.4              |                      |
| 1982 Average  | 97.3               | 122.8                 | 95.3                          | 42.7                           | 101.8    | 103.8               | 91.4              | 91.4                | 91.4    | 73.7 | 61.2              |                      |

Source: Energy Information Administration, Petroleum Marketing Monthly, Table 4, March 1991.

# Supplier Product Prices for End-Users

(¢ per gal., excluding taxes)

| Year<br>Month | Motor<br>Gasoline | Aviation<br>Gasoline | Kerosine-<br>Type<br>Jet Fuel | Propane<br>(Consumer<br>Grade) | Kerosine | No. 2 Distillate    |                   |                     |         |      | No. 4<br>Fuel (a) | Residual<br>Fuel Oil |
|---------------|-------------------|----------------------|-------------------------------|--------------------------------|----------|---------------------|-------------------|---------------------|---------|------|-------------------|----------------------|
|               |                   |                      |                               |                                |          | No. 1<br>Distillate | No. 2<br>Fuel Oil | No. 2<br>Diesel Oil | Average |      |                   |                      |
| 1990          |                   |                      |                               |                                |          |                     |                   |                     |         |      |                   |                      |
| January       | 78.6              | 102.0                | 79.7                          | 94.5                           | 99.9     | 81.5                | 81.0              | 76.4                | 77.4    | 71.8 | 52.0              |                      |
| February      | 76.5              | 102.4                | 68.9                          | 81.2                           | 81.2     | 66.6                | 63.9              | 61.9                | 62.2    | 57.1 | 43.6              |                      |
| March         | 75.0              | 100.9                | 63.5                          | 71.5                           | 82.3     | 67.6                | 62.4              | 60.6                | 60.8    | 55.0 | 40.1              |                      |
| April         | 77.8              | 101.4                | 61.1                          | 68.5                           | 74.2     | 67.1                | 61.6              | 60.2                | 60.4    | 50.6 | 35.5              |                      |
| May           | 80.1              | 103.5                | 58.1                          | 54.8                           | 65.4     | 64.9                | 57.4              | 58.4                | 58.3    | 48.3 | 34.1              |                      |
| June          | 81.3              | 104.0                | 55.6                          | 57.4                           | 58.5     | 61.9                | 51.5              | 54.0                | 53.6    | 45.0 | 30.4              |                      |
| July          | 80.6              | 103.6                | 55.3                          | 55.6                           | 59.3     | 63.5                | 53.6              | 54.9                | 54.7    | 43.9 | 31.9              |                      |
| August        | 92.2              | 112.6                | 70.3                          | 64.7                           | 87.4     | 82.5                | 74.1              | 76.1                | 75.9    | 65.4 | 44.1              |                      |
| September     | 100.9             | 125.4                | 91.2                          | 72.5                           | 101.8    | 94.4                | 87.3              | 88.4                | 88.3    | 73.1 | 50.7              |                      |
| October       | 108.6             | 134.4                | 115.8                         | 77.1                           | 118.7    | 107.6               | 99.5              | 101.0               | 100.8   | 87.0 | 60.5              |                      |
| November      | 107.1             | 131.7                | 108.8                         | 84.6                           | 116.7    | 104.3               | 93.5              | 96.0                | 95.6    | 84.4 | 58.7              |                      |
| December      | 99.5              | 122.5                | 92.2                          | NA                             | 107.7    | 96.0                | 86.9              | 85.8                | 86.0    | 81.3 | 55.4              |                      |
| 1990 Average  | 88.2              | 111.9                | 78.7                          | 74.0                           | 90.0     | 82.4                | 73.2              | 72.5                | 72.6    | 62.2 | 44.4              |                      |
| 1989          |                   |                      |                               |                                |          |                     |                   |                     |         |      |                   |                      |
| January       | 65.6              | 89.2                 | 56.2                          | 65.6                           | 71.4     | 60.5                | 56.7              | 53.5                | 54.1    | 48.9 | 35.4              |                      |
| February      | 66.1              | 89.7                 | 57.0                          | 66.8                           | 72.2     | 59.1                | 55.6              | 54.3                | 54.5    | 48.3 | 34.3              |                      |
| March         | 68.4              | 90.6                 | 57.9                          | 63.8                           | 67.6     | 61.8                | 57.1              | 57.0                | 57.0    | 49.1 | 36.1              |                      |
| April         | 81.7              | 99.1                 | 60.6                          | 55.9                           | 66.2     | 67.6                | 59.2              | 61.0                | 60.8    | 53.0 | 40.3              |                      |
| May           | 85.5              | 107.0                | 58.1                          | 55.4                           | 59.7     | 63.8                | 54.8              | 57.1                | 56.9    | 50.3 | 40.5              |                      |
| June          | 84.5              | 107.1                | 56.2                          | 49.0                           | 53.9     | 60.1                | 50.3              | 53.4                | 52.9    | 46.4 | 39.1              |                      |
| July          | 82.0              | 105.5                | 54.7                          | 54.9                           | 55.3     | 58.5                | 51.9              | 53.1                | 52.9    | 46.1 | 38.5              |                      |
| August        | 76.6              | 101.9                | 55.1                          | 57.4                           | 58.0     | 58.7                | 52.7              | 53.7                | 53.6    | 46.2 | 36.8              |                      |
| September     | 74.9              | 100.7                | 58.9                          | 59.0                           | 66.8     | 67.1                | 57.3              | 59.5                | 59.1    | 50.0 | 36.5              |                      |
| October       | 74.7              | 100.4                | 63.8                          | 59.9                           | 73.6     | 70.4                | 61.7              | 63.7                | 63.5    | 53.6 | 38.8              |                      |
| November      | 72.7              | 98.6                 | 64.4                          | 58.4                           | 77.7     | 71.8                | 62.6              | 64.5                | 64.2    | 53.8 | 39.3              |                      |
| December      | 72.1              | 97.3                 | 68.1                          | 74.4                           | 90.0     | 79.3                | 76.0              | 71.3                | 72.3    | 64.3 | 45.7              |                      |
| 1989 Average  | 75.6              | 99.5                 | 59.2                          | 61.5                           | 70.9     | 66.1                | 58.7              | 58.5                | 58.5    | 51.2 | 38.5              |                      |
| 1988 Average  | 67.3              | 89.1                 | 51.3                          | 71.4                           | 73.8     | 58.4                | 56.4              | 55.0                | 50.7    | 46.1 | 33.4              |                      |
| 1987 Average  | 66.9              | 90.7                 | 54.3                          | 70.1                           | 77.0     | 60.4                | 58.1              | 55.1                | 55.6    | 51.3 | 42.3              |                      |
| 1986 Average  | 62.4              | 101.1                | 52.9                          | 74.5                           | 79.0     | 62.0                | 56.0              | 47.8                | 49.1    | 48.9 | 34.3              |                      |
| 1984 Average  | 90.7              | 123.4                | 84.2                          | 73.7                           | 103.6    | 92.7                | 91.8              | 82.3                | 83.7    | 79.6 | 68.7              |                      |
| 1982 Average  | 106.0             | 131.2                | 96.3                          | 59.2                           | 108.9    | 102.3               | 90.5              | 94.2                | 92.5    | 75.0 | 67.6              |                      |

(a) Includes No. 4 fuel and No. 4 diesel fuel.

Source: Energy Information Administration, Petroleum Marketing Monthly, Table 2, March, 1991.

## Residential No. 2 Distillate Fuel Oil Prices

(\$ per gal., excluding taxes)

| Year        | Conn. | Maine | Mass. | N.H.  | R.I.  | Vt.   | Del.  | D.C.  | Md.   | N.J.  | N.Y.  | Pa.   | Va.   |
|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| <b>1990</b> |       |       |       |       |       |       |       |       |       |       |       |       |       |
| January     | 119.8 | 115.4 | 115.9 | 118.6 | 122.6 | 121.5 | 119.8 | 119.0 | 120.0 | 117.3 | 122.2 | 113.7 | 118.1 |
| February    | 100.8 | 84.8  | 99.7  | 96.0  | 98.5  | 98.4  | 97.1  | 104.9 | 101.4 | 99.5  | 103.1 | 93.4  | 101.7 |
| March       | 97.7  | 83.4  | 98.6  | 92.9  | 97.3  | 95.6  | 93.2  | 94.4  | 98.8  | 98.5  | 101.6 | 90.3  | 96.8  |
| April       | 96.3  | 82.9  | 95.1  | 89.9  | 95.9  | 94.2  | 91.8  | 93.1  | 97.5  | 96.5  | 100.2 | 87.6  | 95.8  |
| May         | 92.7  | 81.0  | 92.4  | 86.9  | 93.9  | 91.7  | 89.9  | 94.2  | 95.0  | 94.4  | 99.2  | 84.4  | 90.6  |
| June        | 87.0  | 76.2  | 88.9  | 82.8  | 89.1  | 86.9  | 83.2  | 93.2  | 89.5  | 88.6  | 94.8  | 78.3  | 88.2  |
| July        | 85.4  | 74.2  | 88.0  | 80.7  | 86.9  | 85.4  | 77.9  | 97.6  | 86.2  | 85.4  | 93.3  | 74.3  | 89.7  |
| August      | 104.1 | 97.7  | 102.3 | 99.2  | 102.3 | 97.4  | 93.1  | 107.1 | 100.2 | 102.1 | 102.6 | 92.5  | 102.4 |
| September   | 114.7 | 118.3 | 117.1 | 110.9 | 115.8 | 114.6 | 111.2 | 116.1 | 115.8 | 114.3 | 116.3 | 108.9 | 114.8 |
| October     | 128.2 | 126.0 | 126.7 | 120.0 | 120.0 | 124.1 | 122.3 | 134.9 | 130.6 | 126.9 | 128.8 | 122.6 | 128.3 |
| November    | 128.1 | 116.3 | 122.7 | 116.0 | 119.8 | 123.4 | 118.8 | 134.3 | 130.4 | 125.8 | 127.8 | 120.0 | 126.1 |
| December    | 124.8 | 113.0 | 119.8 | 110.7 | 114.8 | 119.3 | 113.7 | 122.4 | 125.5 | 120.9 | 125.1 | 116.8 | 122.9 |
| 1990 Avg.   | 109.8 | 98.4  | 108.2 | 102.9 | 108.5 | 108.9 | 106.0 | 107.9 | 111.9 | 108.6 | 112.3 | 102.1 | 110.5 |
| <b>1989</b> |       |       |       |       |       |       |       |       |       |       |       |       |       |
| January     | 88.4  | 85.6  | 87.1  | 83.0  | 87.5  | 86.0  | 82.4  | 94.0  | 88.1  | 87.3  | 91.0  | 81.6  | 82.6  |
| February    | 88.7  | 87.4  | 86.3  | 83.8  | 88.3  | 86.9  | 81.8  | 95.1  | 88.8  | 87.0  | 92.2  | 82.2  | 82.3  |
| March       | 89.8  | 88.3  | 88.1  | 84.8  | 90.0  | 87.8  | 82.9  | 96.0  | 89.4  | 88.9  | 93.4  | 82.2  | 82.5  |
| April       | 89.4  | 87.4  | 87.8  | 83.2  | 89.9  | 87.5  | 84.8  | 95.4  | 90.3  | 87.8  | 93.8  | 83.2  | 82.1  |
| May         | 88.1  | 81.0  | 86.8  | 83.1  | 88.8  | 86.4  | 83.4  | 92.1  | 89.6  | 87.2  | 92.9  | 82.2  | 81.5  |
| June        | 85.6  | 73.5  | 83.4  | 79.5  | 87.6  | 84.3  | 80.3  | 92.0  | 88.4  | 83.0  | 92.0  | 77.6  | 79.6  |
| July        | 84.9  | 72.1  | 81.1  | 77.8  | 85.4  | 82.9  | 79.0  | 90.7  | 86.5  | 82.3  | 90.9  | 74.1  | 78.4  |
| August      | 84.6  | 70.0  | 81.1  | 78.2  | 84.1  | 82.0  | 78.8  | 90.1  | 85.7  | 80.1  | 90.1  | 72.6  | 77.9  |
| September   | 85.2  | 74.6  | 84.9  | 79.4  | 86.5  | 82.6  | 78.8  | 91.4  | 83.1  | 81.8  | 86.6  | 74.2  | 79.7  |
| October     | 88.9  | 82.7  | 88.5  | 83.2  | 90.3  | 85.3  | 82.4  | 92.0  | 88.2  | 87.3  | 91.0  | 78.9  | 84.0  |
| November    | 90.3  | 86.7  | 91.1  | 87.5  | 92.3  | 86.1  | 86.1  | 94.7  | 91.1  | 89.7  | 93.7  | 81.6  | 86.0  |
| December    | 112.5 | 106.0 | 115.2 | 112.1 | 114.0 | 109.8 | 111.6 | 110.8 | 110.6 | 108.5 | 113.0 | 103.1 | 105.2 |
| 1989 Avg.   | 92.9  | 89.4  | 92.6  | 89.3  | 93.9  | 90.5  | 88.2  | 98.6  | 93.8  | 91.8  | 95.8  | 85.1  | 87.0  |
| 1988 Avg.   | 85.3  | 77.7  | 82.1  | 78.2  | 83.8  | 82.6  | 80.1  | 91.6  | 87.0  | 84.8  | 86.3  | 77.8  | 80.5  |
| 1986 Avg.   | 89.0  | 74.4  | 82.1  | 75.9  | 82.8  | 86.6  | 85.0  | 93.1  | 91.4  | 90.2  | 91.1  | 81.4  | 86.6  |
| 1984 Avg.   | 112.1 | 103.9 | 111.6 | 108.4 | 111.4 | 111.9 | 109.6 | 118.7 | 113.5 | 111.0 | 115.5 | 107.9 | 110.5 |

## Supplier Prices of No. 2 Distillate Fuel Oil

(\$ per gal., excluding taxes)

## Sales to End-Users

|              | To Residential Consumers(a) | To Commercial/ Institutional Consumers | To Industrial Consumers | Sales Through Company Outlets(b) | To Other End-Users(c) | Average | Sales for Resale |
|--------------|-----------------------------|----------------------------------------|-------------------------|----------------------------------|-----------------------|---------|------------------|
| <b>1990</b>  |                             |                                        |                         |                                  |                       |         |                  |
| January      | 114.0                       | 80.2                                   | 80.4                    | 89.4                             | 80.8                  | 92.0    | 74.0             |
| February     | 96.3                        | 64.1                                   | 66.5                    | 75.7                             | 69.0                  | 76.3    | 59.0             |
| March        | 94.7                        | 62.7                                   | 65.6                    | 71.4                             | 69.1                  | 73.2    | 58.6             |
| April        | 93.1                        | 62.1                                   | 65.3                    | 71.1                             | 70.0                  | 71.2    | 58.2             |
| May          | 90.7                        | 59.4                                   | 63.6                    | 69.5                             | 67.7                  | 67.0    | 55.7             |
| June         | 86.4                        | 55.1                                   | 59.1                    | 66.4                             | 63.3                  | 61.9    | 50.9             |
| July         | 83.8                        | 56.7                                   | 60.0                    | 66.7                             | 64.2                  | 62.8    | 52.8             |
| August       | 98.8                        | 78.0                                   | 83.0                    | 88.5                             | 86.5                  | 84.6    | 73.8             |
| September    | 113.7                       | 90.1                                   | 95.6                    | 100.2                            | 99.2                  | 97.1    | 86.6             |
| October      | 125.4                       | 101.6                                  | 106.1                   | 111.1                            | 110.5                 | 108.6   | 97.5             |
| November     | 123.4                       | 96.7                                   | 100.0                   | 107.5                            | 105.9                 | 105.5   | 92.0             |
| December     | 119.0                       | 87.7                                   | 89.5                    | 98.0                             | 94.7                  | 99.5    | 81.5             |
| 1990 Average | 106.1                       | 75.2                                   | 78.0                    | 85.2                             | 82.0                  | 84.1    | 70.7             |
| <b>1989</b>  |                             |                                        |                         |                                  |                       |         |                  |
| January      | 84.9                        | 57.1                                   | 59.2                    | 63.5                             | 58.9                  | 67.8    | 53.2             |
| February     | 85.5                        | 56.9                                   | 59.7                    | 64.3                             | 61.6                  | 68.7    | 52.5             |
| March        | 87.1                        | 59.4                                   | 62.6                    | 66.1                             | 65.0                  | 69.4    | 55.6             |
| April        | 87.8                        | 61.9                                   | 64.8                    | 70.7                             | 69.4                  | 69.8    | 57.8             |
| May          | 86.6                        | 57.9                                   | 60.8                    | 69.1                             | 66.6                  | 65.5    | 53.7             |
| June         | 84.1                        | 54.4                                   | 57.4                    | 66.4                             | 62.0                  | 60.8    | 51.1             |
| July         | 82.1                        | 54.6                                   | 56.6                    | 65.1                             | 61.6                  | 60.2    | 51.2             |
| August       | 81.5                        | 55.6                                   | 58.6                    | 64.4                             | 62.9                  | 61.3    | 52.5             |
| September    | 81.5                        | 60.5                                   | 64.5                    | 68.2                             | 68.4                  | 66.4    | 57.7             |
| October      | 85.6                        | 64.4                                   | 68.2                    | 71.3                             | 71.7                  | 70.8    | 61.3             |
| November     | 88.3                        | 65.2                                   | 68.7                    | 72.4                             | 71.5                  | 72.9    | 61.5             |
| December     | 107.6                       | 77.2                                   | 78.6                    | 81.3                             | 79.0                  | 89.2    | 72.1             |
| 1989 Average | 90.0                        | 60.8                                   | 63.8                    | 68.5                             | 66.7                  | 69.5    | 57.2             |
| 1988 Average | 81.3                        | 51.9                                   | 54.2                    | 61.6                             | 58.7                  | 61.2    | 48.2             |
| 1987 Average | 80.3                        | 56.6                                   | 59.7                    | 64.4                             | 63.1                  | 64.3    | 53.5             |
| 1986 Average | 83.6                        | 51.4                                   | 53.7                    | 59.8                             | 56.9                  | 61.4    | 48.0             |
| 1984 Average | 109.1                       | 85.7                                   | 87.0                    | 92.0                             | 89.2                  | 92.6    | 81.9             |

(a) No. 2 fuel oil only.

(b) No. 2 diesel fuel only.

(c) Sales to "other end users" are all end-user sales not included in the other end-user categories shown, e.g., sales to agricultural customers or utilities.

Source: Energy Information Administration, Petroleum Marketing Monthly, Table 15, March 1991.

## For Selected States

(\$ per gal., excluding taxes)

|              | W. Va. | Ill.  | Ind.  | Mich. | Minn. | Ohio  | Wis.  | Idaho | Ark.  | Ore.  | Wash. | U.S. Avg. |
|--------------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-----------|
| <b>1990</b>  |        |       |       |       |       |       |       |       |       |       |       |           |
| January      | 109.2  | 95.2  | 99.7  | 103.5 | 100.9 | 96.0  | 91.6  | 85.7  | 98.6  | 88.7  | 96.0  | 114.0     |
| February     | 89.4   | 83.2  | 85.6  | 92.0  | 88.1  | 82.8  | 83.9  | 80.8  | 99.6  | 83.9  | 89.0  | 96.3      |
| March        | 87.1   | 83.4  | 83.1  | 88.7  | 85.5  | 81.2  | 83.1  | 80.9  | 104.2 | 84.4  | 88.6  | 94.7      |
| April        | 83.7   | 82.2  | 83.7  | 86.5  | 85.6  | 80.8  | 82.9  | 81.7  | 97.9  | 85.1  | 90.0  | 93.1      |
| May          | 83.0   | 78.3  | 82.4  | 83.7  | 85.2  | 81.9  | 81.0  | 79.4  | 101.7 | 84.6  | 84.3  | 90.7      |
| June         | 83.4   | 73.8  | 72.8  | 81.1  | 80.4  | 82.6  | 79.5  | 74.6  | 102.1 | 81.9  | 85.0  | 86.4      |
| July         | 79.2   | 76.7  | 74.7  | 82.4  | 83.0  | 81.8  | 77.5  | 70.5  | 97.8  | 79.3  | 76.3  | 83.8      |
| August       | 96.1   | 96.9  | 98.1  | 100.2 | 101.6 | 93.3  | 92.0  | 90.7  | 116.8 | 95.3  | 90.0  | 98.8      |
| September    | 115.2  | N/A   | 110.4 | 113.2 | 111.7 | 115.2 | 107.0 | 108.3 | 119.3 | 111.9 | 115.3 | 113.7     |
| October      | 124.4  | 117.8 | 123.3 | 123.9 | 121.7 | 120.9 | 117.1 | 121.0 | 128.9 | 128.2 | 133.3 | 125.4     |
| November     | 121.7  | 113.1 | 119.1 | 121.0 | 119.7 | 117.0 | 114.8 | 127.1 | 127.5 | 126.8 | 134.4 | 123.4     |
| December     | 128.8  | 105.0 | 111.7 | 113.5 | 111.1 | 111.8 | 108.2 | 119.3 | 128.2 | 109.0 | 122.0 | 119.0     |
| 1990 Average | 98.9   | 96.1  | 98.9  | 100.9 | 101.7 | 97.8  | 94.2  | 97.3  | 112.6 | 97.0  | 102.7 | 106.1     |
| <b>1989</b>  |        |       |       |       |       |       |       |       |       |       |       |           |
| January      | 75.8   | 76.6  | 77.8  | 78.8  | 75.3  | 77.5  | 73.9  | 68.1  | 86.7  | 66.3  | 76.9  | 84.9      |
| February     | 76.2   | 75.8  | 77.0  | 79.3  | 75.7  | 76.7  | 74.0  | 71.5  | 90.9  | 76.7  | 86.0  | 85.5      |
| March        | 76.7   | 76.6  | 77.6  | 80.1  | 77.1  | 77.5  | 75.6  | 78.3  | 96.0  | 84.2  | 92.8  | 87.1      |
| April        | 77.0   | 79.8  | 79.7  | 81.5  | 82.3  | 79.4  | 76.3  | 85.8  | 99.5  | 87.3  | 94.2  | 87.8      |
| May          | 77.4   | 78.5  | 79.1  | 81.2  | 82.1  | 78.5  | 78.0  | 83.5  | 100.1 | 79.6  | 87.3  | 86.6      |
| June         | 80.9   | 77.0  | 76.5  | 80.1  | 81.0  | 79.3  | 78.0  | 80.3  | 101.5 | 74.9  | 77.6  | 84.1      |
| July         | 78.1   | 74.5  | 77.0  | 80.3  | 80.8  | 79.4  | 75.7  | 77.3  | 105.8 | 71.1  | 74.7  | 82.1      |
| August       | 73.6   | 78.4  | 76.5  | 79.1  | 79.4  | 78.1  | 75.4  | 77.2  | 101.6 | 71.2  | 78.2  | 81.5      |
| September    | 79.3   | 77.5  | 80.1  | 82.9  | 80.7  | 77.5  | 76.5  | 80.3  | 96.0  | 81.5  | 83.9  | 81.5      |
| October      | 81.7   | 81.9  | 83.3  | 86.4  | 82.5  | 78.4  | 79.5  | 82.2  | 97.8  | 86.4  | 91.7  | 85.6      |
| November     | 83.1   | 82.8  | 84.0  | 88.2  | 86.1  | 78.8  | 82.2  | 84.9  | 97.9  | 86.4  | 93.4  | 88.3      |
| December     | 100.0  | 93.9  | 98.6  | 102.2 | 95.6  | 97.2  | 97.5  | 84.5  | 98.1  | 86.1  | 93.1  | 107.6     |
| 1989 Average | 83.0   | 80.9  | 83.2  | 85.3  | 82.4  | 81.6  | 81.1  | 77.8  | 96.4  | 80.2  | 87.4  | 90.0      |
| 1988 Average | 74.2   | 77.8  | 75.4  | 77.5  | 73.5  | 74.7  | 73.9  | 68.8  | 86.9  | 70.9  | 78.5  | 81.3      |
| 1986 Average | 74.6   | NA    | 74.8  | 81.0  | 79.2  | 77.7  | 75.6  | 73.8  | 94.9  | 70.4  | 77.5  | 83.6      |
| 1984 Average | 102.1  | 100.1 | 103.1 | 105.0 | 104.1 | 102.1 | 101.0 | 98.5  | 108.9 | 99.3  | 102.6 | 109.1     |

Source: Energy Information Administration, Petroleum Marketing Monthly, Table 16, March 1991.

## Supplier Prices of Residual Fuel Oil

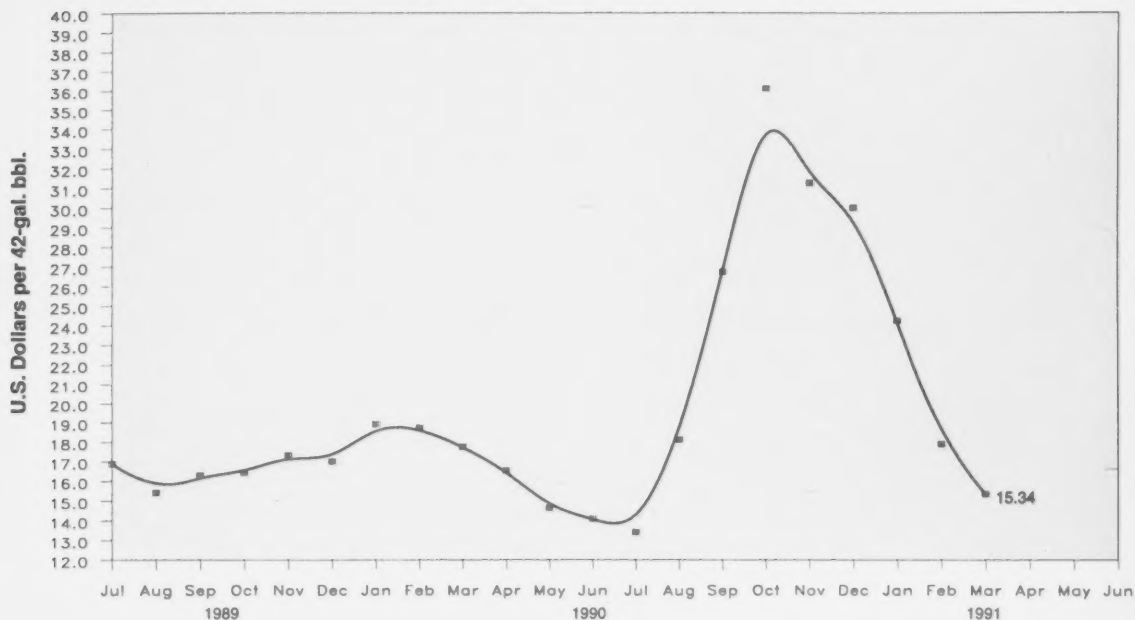
(\$ per gal., excluding taxes)

|              | Residual Fuel Oil<br>Sulfur Content Less<br>Than or Equal to 1% |                     | Residual Fuel Oil<br>Sulfur Content<br>Greater than 1% |                     | Average               |                     |
|--------------|-----------------------------------------------------------------|---------------------|--------------------------------------------------------|---------------------|-----------------------|---------------------|
|              | Sales to<br>End-Users                                           | Sales for<br>Resale | Sales to<br>End-Users                                  | Sales for<br>Resale | Sales to<br>End-Users | Sales for<br>Resale |
| <b>1990</b>  |                                                                 |                     |                                                        |                     |                       |                     |
| January      | 60.0                                                            | 56.0                | 45.1                                                   | 41.9                | 52.0                  | 48.1                |
| February     | 51.3                                                            | 44.6                | 37.2                                                   | 34.7                | 43.6                  | 38.2                |
| March        | 45.3                                                            | 39.8                | 35.4                                                   | 31.2                | 40.1                  | 34.4                |
| April        | 39.6                                                            | 36.1                | 32.5                                                   | 31.1                | 35.5                  | 33.3                |
| May          | 37.9                                                            | 34.2                | 31.4                                                   | 28.5                | 34.1                  | 30.5                |
| June         | 34.2                                                            | 31.4                | 27.6                                                   | 24.8                | 30.4                  | 27.2                |
| July         | 36.3                                                            | 33.4                | 28.3                                                   | 25.3                | 31.9                  | 29.1                |
| August       | 50.7                                                            | 49.5                | 39.5                                                   | 41.1                | 44.1                  | 44.4                |
| September    | 59.4                                                            | 56.8                | 46.2                                                   | 46.1                | 50.7                  | 50.8                |
| October      | 68.6                                                            | 63.4                | 54.6                                                   | 53.1                | 60.5                  | 57.3                |
| November     | 66.5                                                            | 63.3                | 53.9                                                   | 49.7                | 58.7                  | 55.6                |
| December     | 62.1                                                            | 56.6                | 50.4                                                   | 45.0                | 55.4                  | 49.2                |
| 1990 Average | 50.4                                                            | 47.1                | 39.9                                                   | 37.2                | 44.4                  | 41.2                |
| <b>1989</b>  |                                                                 |                     |                                                        |                     |                       |                     |
| January      | 41.7                                                            | 38.8                | 30.5                                                   | 29.1                | 35.4                  | 32.8                |
| February     | 39.8                                                            | 37.0                | 29.9                                                   | 30.5                | 34.3                  | 33.2                |
| March        | 42.0                                                            | 38.8                | 29.7                                                   | 28.1                | 36.1                  | 32.1                |
| April        | 46.6                                                            | 44.1                | 34.9                                                   | 34.2                | 40.3                  | 38.1                |
| May          | 46.5                                                            | 43.6                | 36.3                                                   | 34.7                | 40.5                  | 37.6                |
| June         | 42.0                                                            | 39.3                | 36.2                                                   | 33.9                | 39.1                  | 35.5                |
| July         | 42.1                                                            | 39.0                | 35.5                                                   | 34.0                | 38.5                  | 35.7                |
| August       | 39.6                                                            | 37.3                | 34.5                                                   | 33.0                | 36.8                  | 34.4                |
| September    | 40.2                                                            | 38.2                | 34.2                                                   | 32.3                | 36.5                  | 35.1                |
| October      | 43.2                                                            | 40.2                | 35.9                                                   | 34.5                | 38.8                  | 36.9                |
| November     | 44.1                                                            | 40.5                | 36.2                                                   | 34.2                | 39.3                  | 36.6                |
| December     | 53.4                                                            | 47.7                | 39.5                                                   | 38.3                | 45.7                  | 42.1                |
| 1989 Average | 43.6                                                            | 40.7                | 34.4                                                   | 33.1                | 38.5                  | 36.0                |
| 1988 Average | 37.2                                                            | 33.3                | 30.0                                                   | 27.1                | 33.4                  | 30.0                |
| 1987 Average | 44.7                                                            | 41.2                | 38.6                                                   | 36.2                | 42.2                  | 36.5                |
| 1986 Average | 37.2                                                            | 32.8                | 31.7                                                   | 28.9                | 34.3                  | 30.5                |
| 1984 Average | 72.0                                                            | 68.5                | 65.9                                                   | 63.9                | 68.7                  | 65.4                |

Source: Energy Information Administration, Petroleum Marketing Monthly, Table 17, May 1991.

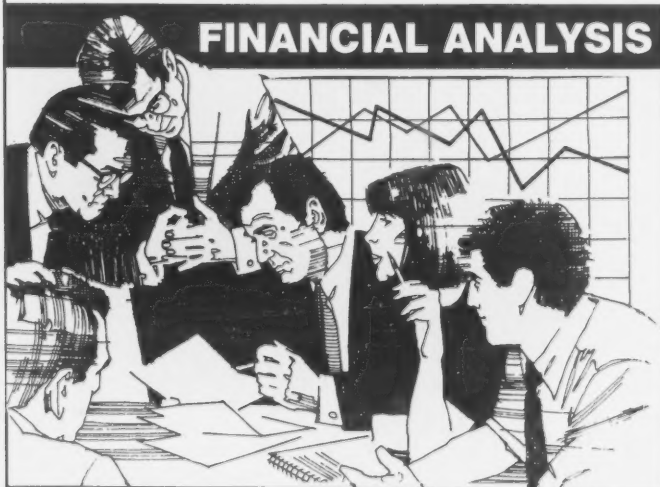
## World Crude Oil Price Trends

(Average price (FOB), internationally traded only, weighed by estimated volume)



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# Spot Market Product Prices

(\$ per bbl.)

|             |    | Motor Gasoline                             |                                             | Gasoil/Heating Oil         |                           | Residual Fuel Oil        |                         |
|-------------|----|--------------------------------------------|---------------------------------------------|----------------------------|---------------------------|--------------------------|-------------------------|
|             |    | Rotterdam<br>Leaded-Premium<br>(98-Octane) | New York<br>Unleaded Regular<br>(87-Octane) | Rotterdam<br>(0.3% Sulfur) | New York<br>(0.2% Sulfur) | Rotterdam<br>(1% Sulfur) | New York<br>(1% Sulfur) |
| <b>1990</b> |    |                                            |                                             |                            |                           |                          |                         |
| Jan.        | 5  | 27.90                                      | 28.29                                       | 32.91                      | 40.53                     | 23.05                    | 25.75                   |
|             | 12 | 26.26                                      | 28.56                                       | 26.61                      | 32.45                     | 22.60                    | 25.35                   |
|             | 19 | 25.56                                      | 26.36                                       | 23.99                      | 27.03                     | 20.50                    | 24.75                   |
|             | 26 | 24.50                                      | 25.77                                       | 22.92                      | 25.45                     | 18.92                    | 20.00                   |
| Feb.        | 2  | 25.91                                      | 26.04                                       | 22.79                      | 24.30                     | 18.99                    | 18.65                   |
|             | 9  | 26.26                                      | 25.41                                       | 22.92                      | 23.42                     | 18.02                    | 18.00                   |
|             | 16 | 26.14                                      | 25.10                                       | 24.26                      | 24.72                     | 17.12                    | 17.75                   |
|             | 23 | 26.03                                      | 24.99                                       | 23.66                      | 24.51                     | 16.52                    | 17.65                   |
| Mar.        | 2  | 25.79                                      | 22.72                                       | 23.46                      | 23.31                     | 16.37                    | 17.00                   |
|             | 9  | 25.44                                      | 22.89                                       | 22.52                      | 24.42                     | 15.02                    | 16.25                   |
|             | 16 | 24.85                                      | 23.52                                       | 22.39                      | 24.78                     | 13.51                    | 16.25                   |
|             | 23 | 25.09                                      | 23.63                                       | 22.12                      | 24.19                     | 13.21                    | 14.95                   |
| Apr.        | 30 | 27.08                                      | 27.20                                       | 22.12                      | 24.68                     | 14.41                    | 15.40                   |
|             | 6  | 26.85                                      | 26.46                                       | 22.12                      | 23.98                     | 13.81                    | 15.50                   |
|             | 13 | 24.62                                      | 25.20                                       | 21.18                      | 25.03                     | 12.61                    | 14.85                   |
|             | 20 | 24.74                                      | 25.77                                       | 21.85                      | 24.51                     | 13.06                    | 14.25                   |
| May         | 27 | 25.67                                      | 25.77                                       | 21.98                      | 23.88                     | 13.96                    | 14.75                   |
|             | 4  | 25.44                                      | 25.14                                       | 21.45                      | 23.52                     | 13.36                    | 14.60                   |
|             | 11 | 26.67                                      | 27.83                                       | 20.78                      | 23.52                     | 13.51                    | 14.50                   |
|             | 18 | 26.85                                      | 27.89                                       | 20.91                      | 22.72                     | 13.36                    | 14.55                   |
| June        | 25 | 26.49                                      | 26.92                                       | 20.24                      | 20.94                     | 12.76                    | 14.55                   |
|             | 1  | 26.61                                      | 26.78                                       | 19.84                      | 21.00                     | 12.16                    | 13.50                   |
|             | 8  | 25.44                                      | 27.20                                       | 19.10                      | 20.16                     | 10.96                    | 12.15                   |
|             | 15 | 25.91                                      | 27.45                                       | 19.30                      | 20.52                     | 11.56                    | 12.65                   |
| July        | 22 | 25.91                                      | 27.55                                       | 18.90                      | 20.06                     | 12.01                    | 12.85                   |
|             | 29 | 26.03                                      | 26.04                                       | 19.03                      | 20.48                     | 11.86                    | 13.25                   |
|             | 6  | 26.96                                      | 25.83                                       | 18.83                      | 20.20                     | 12.61                    | 13.65                   |
|             | 13 | 27.55                                      | 27.72                                       | 20.04                      | 22.09                     | 13.51                    | 14.50                   |
| Aug.        | 20 | 30.48                                      | 27.24                                       | 22.52                      | 23.25                     | 15.02                    | 16.00                   |
|             | 27 | 30.48                                      | 28.35                                       | 23.19                      | 23.73                     | 15.47                    | 16.40                   |
|             | 3  | 34.23                                      | 29.65                                       | 27.21                      | 26.61                     | 18.39                    | 17.50                   |
|             | 10 | 35.35                                      | 33.92                                       | 29.42                      | 28.88                     | 19.14                    | 21.25                   |
| Sept.       | 17 | 39.51                                      | 37.91                                       | 31.23                      | 31.12                     | 19.37                    | 21.50                   |
|             | 24 | 52.23                                      | 46.52                                       | 39.81                      | 39.84                     | 25.15                    | 27.00                   |
|             | 31 | 44.84                                      | 37.59                                       | 32.44                      | 31.12                     | 22.00                    | 23.25                   |
|             | 7  | 50.82                                      | 43.93                                       | 36.33                      | 36.33                     | 23.57                    | 24.00                   |
| Oct.        | 14 | 49.47                                      | 42.53                                       | 35.79                      | 34.17                     | 23.05                    | 23.00                   |
|             | 21 | 49.77                                      | 39.06                                       | 40.01                      | 37.80                     | 23.05                    | 23.00                   |
|             | 28 | 51.88                                      | 43.05                                       | 46.78                      | 43.26                     | 25.15                    | 26.50                   |
|             | 5  | 49.30                                      | 39.52                                       | 45.04                      | 41.20                     | 24.40                    | 26.25                   |
| Nov.        | 12 | 49.71                                      | 40.95                                       | 47.05                      | 43.09                     | 24.92                    | 26.25                   |
|             | 19 | 43.73                                      | 40.68                                       | 40.88                      | 40.05                     | 24.02                    | 26.25                   |
|             | 26 | 40.74                                      | 42.57                                       | 40.21                      | 37.80                     | 22.67                    | 24.50                   |
|             | 2  | 43.55                                      | 42.04                                       | 42.49                      | 37.21                     | 23.72                    | 25.40                   |
| Dec.        | 9  | 40.97                                      | 41.10                                       | 42.90                      | 38.73                     | 22.22                    | 24.25                   |
|             | 16 | 35.87                                      | 34.86                                       | 39.81                      | 37.34                     | 22.67                    | 24.75                   |
|             | 23 | 33.06                                      | 33.63                                       | 37.80                      | 36.26                     | 22.67                    | 24.25                   |
|             | 30 | 36.34                                      | 35.33                                       | 43.16                      | 39.06                     | 24.10                    | 25.35                   |
| 1991        | 7  | 31.01                                      | 28.22                                       | 37.94                      | 34.84                     | 21.92                    | 23.50                   |
|             | 14 | 28.96                                      | 27.43                                       | 34.45                      | 32.42                     | 21.62                    | 23.25                   |
|             | 21 | 30.48                                      | 27.75                                       | 35.79                      | 33.32                     | 22.07                    | 23.00                   |
|             | 28 | 31.18                                      | 28.62                                       | 36.60                      | 34.27                     | 22.07                    | 22.75                   |
| <b>1991</b> |    |                                            |                                             |                            |                           |                          |                         |
| Jan.        | 4  | 30.30                                      | 27.16                                       | 32.44                      | 30.83                     | 21.55                    | 22.50                   |
|             | 11 | 32.94                                      | 31.22                                       | 35.39                      | 33.93                     | 22.75                    | 22.25                   |
|             | 18 | 27.84                                      | 25.78                                       | 34.72                      | 30.66                     | 18.09                    | 19.75                   |
|             | 25 | 28.60                                      | 26.92                                       | 37.20                      | 32.08                     | 18.77                    | 17.50                   |
| Feb.        | 1  | 29.07                                      | 29.48                                       | 33.85                      | 30.73                     | 14.71                    | 16.25                   |
|             | 8  | 29.07                                      | 27.38                                       | 43.50                      | 32.80                     | 13.59                    | 14.35                   |
|             | 15 | 28.25                                      | 27.80                                       | 36.66                      | 30.95                     | 13.81                    | 14.25                   |
|             | 22 | 26.49                                      | 26.64                                       | 37.87                      | 28.67                     | 13.44                    | 13.50                   |
| Mar.        | 1  | 28.25                                      | 29.47                                       | 25.60                      | 28.66                     | 13.36                    | 13.25                   |
|             | 8  | 29.78                                      | 31.58                                       | 26.68                      | 27.68                     | 14.86                    | 13.25                   |
|             | 15 | 29.07                                      | 29.91                                       | 22.79                      | 26.04                     | 15.54                    | 15.50                   |

Source: Energy Information Administration, Weekly Petroleum Statistical Reports.

# International Prices for Gasoline and Fuel Oil

(U.S. \$ per gal. for gasoline, pump retails, distillate and kerosine)  
(U.S. \$ per bbl. for residual oil)

| Country                 | 1/1/90           |             |             |          |                     | 1/1/89           |             |             |          |                     |
|-------------------------|------------------|-------------|-------------|----------|---------------------|------------------|-------------|-------------|----------|---------------------|
|                         | Automotive Fuels |             | Residential |          | Industrial Residual | Automotive Fuels |             | Residential |          | Industrial Residual |
|                         | Premium Gasoline | Diesel Fuel | Distillate  | Kerosine |                     | Premium Gasoline | Diesel Fuel | Distillate  | Kerosine |                     |
| WESTERN HEMISPHERE      |                  |             |             |          |                     |                  |             |             |          |                     |
| Argentina.....          | \$1.28           | \$0.59      | \$0.41      | \$0.31   | \$9.28              | \$1.85           | \$1.17      | \$0.39      | \$0.84   | N/A                 |
| Bolivia.....            | 1.46             | 0.95        | 0.85        | 0.75     | N/A                 | 1.47             | 0.97        | N/A         | 1.01     | N/A                 |
| Brazil.....             | 1.41             | 0.69        | 0.85        | 0.79     | 9.55                | 1.77             | 0.97        | 0.58        | 1.01     | \$15.98             |
| Canada*.....            | 1.92             | 1.55        | 1.09        | 1.56     | 23.49               | 1.65             | 1.47        | 1.01        | 1.54     | 16.56               |
| Chile.....              | 1.21             | 1.20        | 1.17        | 0.96     | 21.96               | 1.20             | 0.94        | 0.93        | 0.81     | 17.57               |
| Dominican Republic..... | 0.94             | 0.39        | N/A         | 0.39     | 16.38               | 0.56             | 0.40        | 0.37        | 0.43     | N/A                 |
| Ecuador.....            | 0.52             | 0.37        | N/A         | 0.06     | 11.78               | 1.80             | 1.30        | 1.30        | 0.30     | 54.60               |
| El Salvador.....        | 1.88             | 1.05        | N/A         | 1.14     | 21.00               | 2.08             | 1.05        | N/A         | 1.14     | 21.00               |
| Jamaica.....            | 2.02             | 1.44        | N/A         | 0.78     | 25.08               | 1.65             | 1.20        | N/A         | 0.66     | 18.75               |
| Mexico.....             | 0.88             | 0.67        | 0.27        | 0.63     | 9.74                | 0.95             | 0.74        | 0.74        | 0.50     | 9.04                |
| Panama.....             | 1.98             | 1.19        | N/A         | 1.10     | 21.21               | 1.98             | 1.19        | N/A         | 1.10     | 21.21               |
| Paraguay.....           | 1.33             | 0.68        | N/A         | 0.81     | 17.84               | 1.44             | 0.72        | N/A         | 0.87     | 19.08               |
| Peru.....               | 1.28             | 0.39        | N/A         | 0.44     | 11.28               | 2.00             | 0.39        | N/A         | 0.21     | 12.09               |
| United States* ..       | **1.04           | 0.99        | 0.81        | 1.00     | 21.84               | 0.92             | 0.89        | 0.63        | 0.76     | 15.25               |
| Uruguay.....            | 2.50             | 1.44        | 0.98        | 1.16     | 30.19               | 2.27             | 1.30        | 1.02        | 1.20     | 27.18               |
| Venezuela.....          | 0.24             | 0.06        | 0.04        | 0.09     | 1.84                | 0.39             | 0.09        | N/A         | 0.13     | 2.19                |
| WESTERN EUROPE          |                  |             |             |          |                     |                  |             |             |          |                     |
| Austria*.....           | 3.15             | 2.17        | 0.80        | N/A      | 17.11               | 3.02             | 2.09        | 1.23        | N/A      | N/A                 |
| Belgium*.....           | 3.13             | 1.76        | 0.96        | 0.87     | 14.93               | 2.80             | 1.50        | 0.75        | N/A      | 15.16               |
| Denmark*.....           | 3.64             | 1.04        | 2.32        | 1.84     | 20.83               | 3.90             | 1.10        | 2.37        | N/A      | 23.00               |
| Finland*.....           | 3.40             | 2.29        | 1.21        | N/A      | 25.53               | 3.16             | 1.86        | 0.79        | N/A      | 18.54               |
| France*.....            | 3.40             | 1.78        | 1.40        | N/A      | 18.51               | 3.11             | 1.86        | 1.22        | N/A      | 17.15               |
| Germany*.....           | 2.72             | 1.91        | 0.95        | N/A      | 20.31               | 2.53             | 1.71        | 0.82        | 0.75     | 17.02               |
| Greece*.....            | 2.16             | 0.89        | 0.90        | 0.79     | 24.31               | 2.15             | 1.05        | 1.05        | 1.77     | 28.34               |
| Ireland*.....           | 3.63             | 2.54        | 1.43        | 0.48     | 21.79               | 3.54             | 2.47        | 1.28        | N/A      | 21.68               |
| Italy*.....             | 4.27             | 2.34        | 2.53        | 2.00     | 24.00               | 3.91             | 1.82        | 1.99        | 1.67     | 15.15               |
| Luxembourg*.....        | 2.32             | 1.40        | 0.94        | 0.98     | 19.81               | 2.24             | 1.29        | 0.83        | 1.01     | 16.52               |
| Netherlands*.....       | 3.35             | 1.72        | 1.25        | 1.62     | 26.77               | 3.02             | 1.38        | 1.13        | 1.53     | 22.94               |
| Norway*.....            | 3.61             | 1.31        | 1.38        | 1.55     | 44.43               | 3.27             | 1.06        | 1.09        | 1.13     | 31.03               |
| Portugal*.....          | 3.30             | 2.06        | 2.13        | 2.03     | 25.16               | 3.25             | 1.94        | 2.02        | 1.74     | 24.67               |
| Spain*.....             | 2.73             | 1.82        | 1.21        | 2.04     | 21.22               | 2.45             | 1.62        | 1.06        | 1.80     | 17.57               |
| Sweden*.....            | 3.23             | 2.30        | 1.74        | 2.18     | 55.61               | 2.92             | 1.84        | 1.48        | N/A      | 44.39               |
| Switzerland*.....       | 2.66             | 2.71        | 0.88        | N/A      | 23.42               | 2.72             | 2.67        | 0.77        | N/A      | 19.74               |
| Turkey*.....            | 1.97             | 1.94        | 0.96        | 1.98     | 30.24               | 1.63             | 1.18        | 0.54        | 1.21     | 22.21               |
| United Kingdom*.....    | 2.55             | 2.04        | 0.81        | 2.61     | 19.59               | 2.59             | 2.06        | 71.00       | N/A      | 16.98               |
| Yugoslavia*.....        | 2.16             | 1.80        | 0.84        | N/A      | N/A                 | 1.25             | 1.03        | 0.53        | 0.58     | 12.95               |
| MIDDLE EAST             |                  |             |             |          |                     |                  |             |             |          |                     |
| Israel.....             | 2.20             | 1.67        | 0.75        | 1.69     | 23.03               | 1.89             | 1.36        | 1.21        | 1.44     | 13.98               |
| Saudi Arabia.....       | 0.54             | 0.12        | N/A         | 0.20     | 55.10               | 0.54             | 0.12        | N/A         | 0.20     | 42.40               |
| AFRICA                  |                  |             |             |          |                     |                  |             |             |          |                     |
| Ethiopia.....           | 2.93             | 1.44        | N/A         | 1.18     | 47.00               | 2.18             | 1.44        | N/A         | 1.20     | 41.48               |
| Ghana.....              | 0.76             | 0.69        | N/A         | 0.52     | 18.36               | 1.22             | 1.17        | N/A         | 0.89     | 18.33               |
| Morocco.....            | 2.86             | 1.63        | 0.95        | 1.47     | 33.48               | 2.79             | 1.59        | 0.91        | 1.43     | 32.66               |
| South Africa.....       | 1.76             | 1.65        | 1.59        | 1.48     | 35.67               | 1.66             | 1.53        | N/A         | 1.89     | 52.99               |
| Tunisia.....            | 2.01             | N/A         | 0.79        | 0.66     | 15.64               | 1.65             | N/A         | 0.82        | 0.54     | 16.23               |
| ASIA-PACIFIC            |                  |             |             |          |                     |                  |             |             |          |                     |
| Australia*.....         | 1.86             | 1.59        | 1.43        | N/A      | N/A                 | 1.63             | 1.48        | N/A         | 1.30     | N/A                 |
| Myanmar.....            | 2.94             | 1.93        | 1.56        | 2.48     | 54.60               | 2.97             | 2.04        | N/A         | 2.04     | N/A                 |
| India.....              | 1.92             | 0.78        | N/A         | 0.50     | 31.46               | 2.14             | 0.88        | N/A         | 0.56     | 28.92               |
| Indonesia.....          | 0.81             | 0.42        | 0.42        | 0.35     | 17.65               | 0.84             | 0.44        | 0.44        | 0.36     | 18.48               |
| Japan*.....             | 3.05             | 1.75        | 1.03        | N/A      | 26.14               | 3.41             | 2.02        | 1.04        | 1.36     | 27.76               |
| Pakistan.....           | 1.52             | 0.68        | N/A         | 0.53     | 14.28               | 1.76             | 0.79        | N/A         | 0.61     | 10.61               |
| Philippines.....        | 1.19             | 0.84        | N/A         | 0.84     | 24.25               | 1.03             | 0.66        | N/A         | 0.66     | 17.31               |
| Sri Lanka.....          | 1.89             | 0.91        | N/A         | 0.62     | 15.20               | 1.55             | 0.93        | N/A         | 0.76     | 37.70               |
| Thailand.....           | 1.24             | 0.89        | N/A         | 0.90     | 17.84               | 1.27             | 0.92        | N/A         | 0.75     | 18.36               |

\*Average for 1990. \*\*Unleaded regular gasoline prices.

N/A=Not available or not reported.

All taxes are included, except for U.S. fuel oils.

Source: International Energy Annual 1989, Energy Information Administration; gasoline and fuel oil prices are for the capital cities of each country, except those of the U.S. which are the national average for the periods quoted.

## Retail Outlet Population

A comprehensive, up-to-the-minute survey conducted by *National Petroleum News* indicates that the retail gasoline outlet population currently exceeds 200,000 and may have stabilized, after years of retrenchment, within hailing distance of the old peak set in 1972.

Simply stated, the new counting concept focuses on the number of places where motorists can buy gasoline for their vehicles at retail pumps. It includes conventional "service stations," convenience stores, unattended outlets, truckstops, car washes, garages, etc., anywhere and everywhere that gasoline is sold to the public.

It provides marketers with a comparable and much more confirmable universe figure rather than the hodgepodge of guesses that have been commonplace in recent years.

It's quite probable that when a new survey is made by *NPN* early next year, the gap between the 1991 count and the 1972 record will have narrowed considerably and may be just a memory. Right now, it's relatively close. *NPN's* 1991 population total is 210,120 compared with 1972's 226,459. This is only about 16,000 below the old high water mark.

This, in itself, is surprising because the general feeling has been that the number of places where motorists can purchase gasoline has been on a frightening downhill ski ride for 15-20 years. There is no question that thousands of retail stations have gone belly-up in the last decade or so, forced out by the economics of staying alive or by being displaced and gobbled up by big stations that absorbed the efforts of several smaller ones in given neighborhoods. Environmental require-

## Pump Prices Reflect Growth And Turmoil

A half-century ago, retail gasoline taxes—federal and state—cost consumers less than .06¢ gal. Even with them, pump prices for regular ran only 18¢ gal. Today, federal and state tax averages are in the 30¢ gal. range and pump prices (regular grade) in 1990 averaged \$1.15 gal. for the year and hit as high as \$1.40 gal. in the final quarter.)

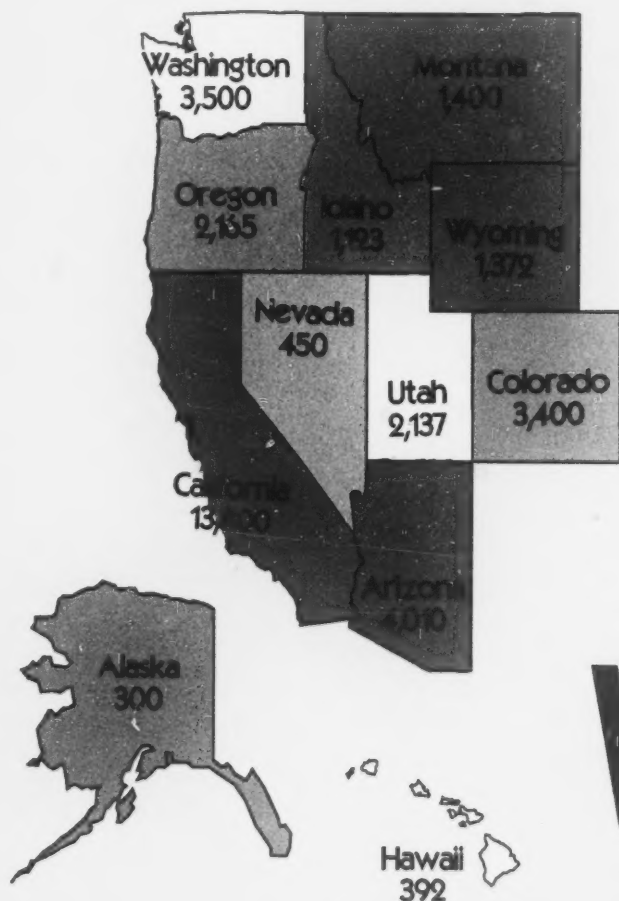
Here's an overview for the past 50 years. It must be remembered, however, that unleaded gasoline was not a marketing factor until 1978 when it was mandated by the federal government as a replacement for leaded gasoline. Today that turnover process is virtually completed with leaded gasoline sales down to about 5% of total consumption.

### Retail Gasoline Prices: A Half-Century of Changes

|      | Leaded<br>Regular | Unleaded<br>Regular |
|------|-------------------|---------------------|
| 1990 | \$1.150           | \$1.170             |
| 1989 | 0.997             | 1.022               |
| 1988 | 0.900             | 0.946               |
| 1987 | 0.897             | 0.948               |
| 1986 | 0.857             | 0.927               |
| 1985 | 1.115             | 1.203               |
| 1984 | 1.129             | 1.212               |
| 1983 | 1.157             | 1.241               |
| 1982 | 1.222             | 1.296               |
| 1981 | 1.311             | 1.378               |
| 1980 | 1.191             | 1.245               |
| 1975 | 0.572             | *                   |
| 1972 | 0.361             | *                   |
| 1970 | 0.356             | *                   |
| 1960 | 0.311             | *                   |
| 1950 | 0.267             | *                   |
| 1940 | 0.184             | *                   |

\* Unleaded not in marketplaces.

Source: American Petroleum Institute,  
Petroleum Basic Data Book, 1990.



# WEST

## 20-Year Overview: The Way We Are Now, the Way We Were Then

|               | Total Outlets |         |         | Gasoline Gallonage<br>(Add 000,000) |         |         |
|---------------|---------------|---------|---------|-------------------------------------|---------|---------|
|               | 1991(a)       | 1987(b) | 1972(c) | 1989(a)                             | 1987(b) | 1972(c) |
| Alabama       | 6,500         | 2,229   | 4,510   | 2,122                               | 2,084   | 1,796   |
| Alaska        | 300           | 214     | 241     | 239                                 | 243     | 112     |
| Arizona       | 4,010         | 1,241   | 2,357   | 1,755                               | 1,683   | 1,094   |
| Arkansas      | 3,764         | 1,357   | 3,144   | 1,274                               | 1,242   | 1,113   |
| California    | 13,800        | 9,812   | 19,513  | 13,339                              | 12,543  | 9,996   |
| Colorado      | 3,400         | 1,568   | 3,170   | 1,535                               | 1,566   | 1,296   |
| Connecticut   | 1,900         | 1,671   | 2,798   | 1,387                               | 1,485   | 1,309   |
| Delaware      | 450           | 279     | 557     | 349                                 | 338     | 290     |
| Dist. of Col. | 134           | 115     | 318     | 183                                 | 181     | 232     |
| Florida       | 10,152        | 5,933   | 9,199   | 6,138                               | 5,915   | 3,899   |
| Georgia       | 7,000         | 3,273   | 6,730   | 3,573                               | 3,421   | 2,680   |
| Hawaii        | 392           | 355     | 480     | 392                                 | 385     | 253     |
| Idaho         | 1,123         | 558     | 1,193   | 490                                 | 462     | 451     |
| Illinois      | 10,100        | 4,655   | 10,211  | 4,994                               | 4,772   | 4,837   |
| Indiana       | 4,500         | 2,854   | 6,235   | 2,675                               | 2,746   | 2,741   |
| Iowa          | 4,169         | 2,020   | 2,613   | 1,410                               | 1,370   | 1,653   |
| Kansas        | 3,062         | 1,576   | 3,609   | 1,294                               | 1,266   | 1,428   |
| Kentucky      | 2,448         | 2,058   | 3,921   | 1,862                               | 1,855   | 1,626   |
| Louisiana     | 6,800         | 1,934   | 3,921   | 2,043                               | 2,063   | 1,658   |
| Maine         | 700           | 673     | 1,224   | 629                                 | 607     | 518     |
| Maryland      | 2,450         | 1,846   | 3,012   | 2,158                               | 2,088   | 1,775   |
| Massachusetts | 2,500         | 2,738   | 4,698   | 2,520                               | 2,492   | 2,276   |
| Michigan      | 8,500         | 4,164   | 8,919   | 4,377                               | 4,288   | 4,537   |
| Minnesota     | 3,598         | 2,289   | 4,585   | 2,102                               | 2,033   | 2,061   |
| Mississippi   | 6,000         | 1,374   | 2,727   | 1,258                               | 1,270   | 1,203   |
| Missouri      | 7,200         | 3,119   | 6,280   | 2,758                               | 2,754   | 2,848   |
| Montana       | 1,400         | 548     | 1,190   | 444                                 | 441     | 427     |
| Nebraska      | 3,000         | 1,163   | 2,265   | 801                                 | 776     | 884     |
| Nevada        | 450           | 441     | 798     | 633                                 | 568     | 366     |
| New Hampshire | 1,050         | 534     | 888     | 527                                 | 514     | 391     |
| New Jersey    | 3,860         | 3,791   | 5,768   | 3,531                               | 3,586   | 3,170   |
| New Mexico    | 2,066         | 696     | 831     | 821                                 | 813     | 647     |
| New York      | 6,800         | 5,982   | 11,359  | 6,770                               | 6,169   | 6,027   |
| N. Carolina   | 10,643        | 3,547   | 6,946   | 3,389                               | 3,318   | 2,714   |
| North Dakota  | 1,245         | 471     | 910     | 361                                 | 381     | 423     |
| Ohio          | 6,205         | 5,362   | 11,723  | 5,024                               | 5,012   | 4,960   |
| Oklahoma      | 4,700         | 1,705   | 4,153   | 1,678                               | 1,773   | 1,516   |
| Oregon        | 2,165         | 1,352   | 2,828   | 1,366                               | 1,313   | 1,192   |
| Pennsylvania  | 6,000         | 5,192   | 11,256  | 4,710                               | 4,590   | 4,769   |
| Rhode Island  | 602           | 487     | 901     | 385                                 | 397     | 401     |
| S. Carolina   | 5,200         | 1,833   | 3,720   | 1,829                               | 1,681   | 1,398   |
| South Dakota  | 1,245         | 558     | 1,171   | 398                                 | 393     | 464     |
| Tennessee     | 6,000         | 2,491   | 5,157   | 2,633                               | 2,755   | 2,104   |
| Texas         | 11,000        | 8,568   | 17,118  | 8,749                               | 8,866   | 6,888   |
| Utah          | 2,137         | 849     | 1,504   | 751                                 | 764     | 595     |
| Vermont       | 856           | 369     | 596     | 284                                 | 282     | 243     |
| Virginia      | 6,000         | 2,740   | 4,648   | 3,043                               | 2,994   | 2,165   |
| Washington    | 3,500         | 2,003   | 3,945   | 2,316                               | 2,215   | 1,648   |
| West Virginia | 2,800         | 1,013   | 2,156   | 837                                 | 829     | 735     |
| Wisconsin     | 5,074         | 2,735   | 5,182   | 2,122                               | 2,047   | 2,147   |
| Wyoming       | 1,372         | 415     | 772     | 326                                 | 313     | 279     |
| Total U.S.    | 210,120       | 114,748 | 226,459 | 115,558                             | 113,930 | 100,069 |

(a) This compilation embraces all outlets where gasoline is sold at retail; it includes service stations, convenience stores, car washes, etc.; a universe, in effect, of retail gasoline outlets; the survey was completed in January 1991.

(b) These are the U.S. Bureau of Census figures for 1987 but include only those service stations which have employees and payrolls and generate more than half of their income from gasoline sales. Automatically excluded are convenience stores, car washes, etc.

(c) These are the U.S. Bureau of Census figures for 1972 and are generally considered a "universe count" because only a handful of places, beyond orthodox service stations, sold gasoline at retail at that time.

Sources: NPN state-by-state telephone survey for 1991; U.S. Census Bureau, *Consequences of Retail Trade*, 1987 and 1972.

ments, including underground storage tanks, insurance and Stage II requirements were particularly troublesome in 1989 and 1990.

But many of these losses have been made up by the expansion of convenience stores into gasoline marketing, and by the construction/modernization programs of the majors and big independents alike.

The new counting concept makes up for the inadequacies of the U.S. Census Bureau's *Survey of the Retail Trades*, which is made every five years, and for the fragility of another key U.S. Commerce Dept. report, *Franchising in the U.S. Economy*, which had been used as a basis for providing interim service station totals.

The new approach counts in, instead of ignoring, the tens of thousands of retail units with gasoline service that have been a growing part of the convenience store world since the late '70s. It looks at them as full-fledged members of the gasoline marketing scene, peer equals for service stations.

The problem with the so-called "official" Census Bureau survey is that the collection signals and data bases were changed several times in recent years so the figures were no longer comparable with prior years. For example, in 1972, about the only place that a motorist could buy gasoline was at a "service station." In 1972, the Census Bureau said there were 226,459 of them and this total, in effect, represented the "universe." C-stores were almost meaningless in the gasoline business at that time.

In 1982 and 1987, the Census Bureau eliminated Mom-and-Pop stations and tallied only those which had employees and formal payrolls. They classified as "service stations" only those which generated 50% or more of their income from gasoline sales. In 1987, the Census Bureau came up with a national total of 114,000 service stations, which was sad indeed by comparison with 1972's 226,000. But the figures were not comparable because one was a universe and the other a bobtailed count.

During the late '70s and all through the '80s, the convenience store industry burgeoned by the thousands to the current total of an estimated 80,000, of which two out of three or three out of four (take your pick) have gasoline facilities. This created such a gray area that only generalizations could be used to estimate the retail outlet population. At best, few marketers thought the total for all outlets was more than 200,000, let alone hard on the heels of the all-time high of yesteryear.

NPN's approach was nationwide in scope and, in effect, a repackaging of the numbers so that each state would be responsible for its own statistics. NPN



## The Top 10 Across the Board

| Total Outlets in 1991(a) | Winners' Increases '91 v. '72(b) | Losers' Decreases '91 v. '72(c) |
|--------------------------|----------------------------------|---------------------------------|
| California 13,800        | N. Carolina +3,697               | Texas -6,118                    |
| Texas 11,000             | Mississippi +3,273               | California -5,713               |
| N. Carolina 10,643       | Louisiana +2,679                 | Ohio -5,518                     |
| Florida 10,152           | Alabama +1,990                   | Pennsylvania -5,256             |
| Illinois 10,100          | Arizona +1,653                   | New York -4,559                 |
| Michigan 8,500           | Iowa +1,556                      | Massachusetts -2,198            |
| Missouri 7,200           | S. Carolina +1,480               | New Jersey -1,908               |
| Georgia 7,000            | Virginia +1,352                  | Indiana -1,735                  |
| New York 6,800           | Florida +953                     | Kentucky -1,457                 |
| Louisiana 6,600          | Missouri +920                    | Minnesota -987                  |

(a) 1991 NPN telephone survey; (b), (c) 1991 NPN telephone survey v. NPN Factbook, 1972 Census Bureau data.

## More Top 10's—Galloneage and Brand Names

| Total Galloneage (add 000,000) 1989(a) | Top Mkt. Shrs. (bil.gal.)(b) |
|----------------------------------------|------------------------------|
| California 13,339                      | Shell 10.1                   |
| Texas 8,749                            | Chevron 9.6                  |
| New York 6,770                         | Exxon 8.9                    |
| Florida 6,138                          | Texaco 8.6                   |
| Ohio 5,425                             | Mobil 8.5                    |
| Illinois 4,994                         | Amoco 8.4                    |
| Pennsylvania 4,710                     | BP America 6.6               |
| Michigan 4,376                         | Marathon 5.8                 |
| Georgia 3,574                          | Citgo 5.1                    |
| New Jersey 3,531                       | Sun 5.1                      |

(a) Federal Highway Administration; (b) NPN Factbook 1990.

staff members contacted every state in the union and the District of Columbia to make sure every voice was heard.

At the outset, it must be realized that many states do not have so-called "official" figures or procedures for isolating, for counting purposes only, retail gasoline stations from other types of business.

This includes the motor vehicle departments, the licensing departments and the tax divisions in more than half of the states in the country.

As a matter of fact, it's easier to find out the number of underground storage tanks in almost any state than it is to determine the number of service stations above them.

That's because federal law mandated establishment of environmental offices in each state, and the collection of appropriate data, including county-by-county inventories of UST facilities, so that federal and state regulations can be administered. Since the mandate specified only storage tanks, no one apparently gave a hoot about the number of stations above them.

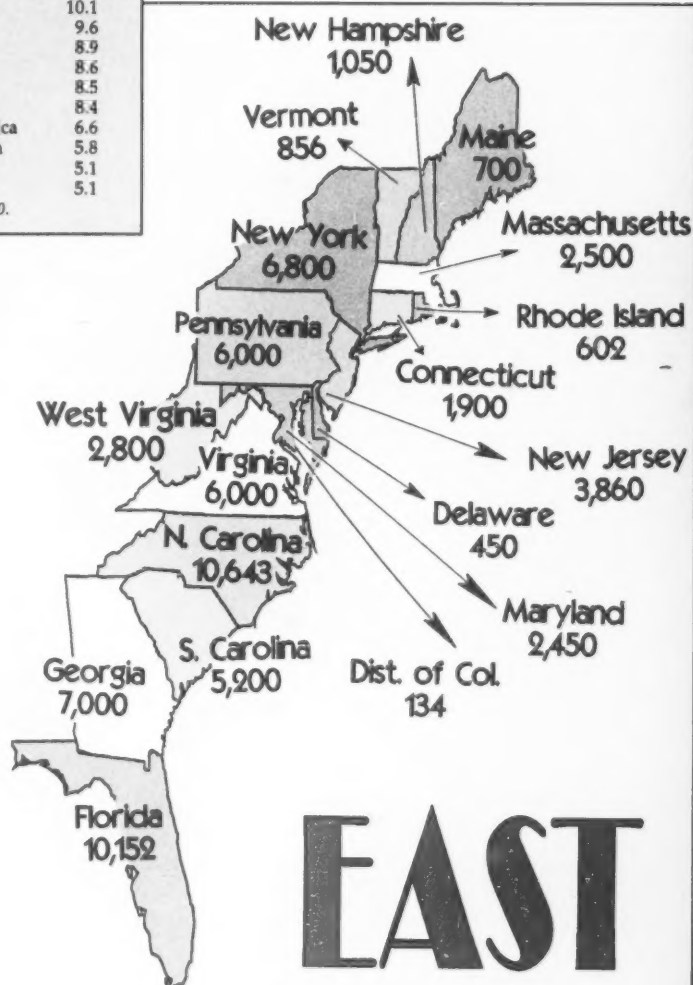
The lack of "official" tallies forced the NPN staffers to track down other responsible sources in state administrations who might have reasonable knowledge of the gasoline marketplaces and are in a position to make reliable estimates. These included weights and measures departments which, while not responsible for totals, were responsible for the accuracy of every

retail pump in business. Key trade associations were contacted, too, because of their specialized knowledge.

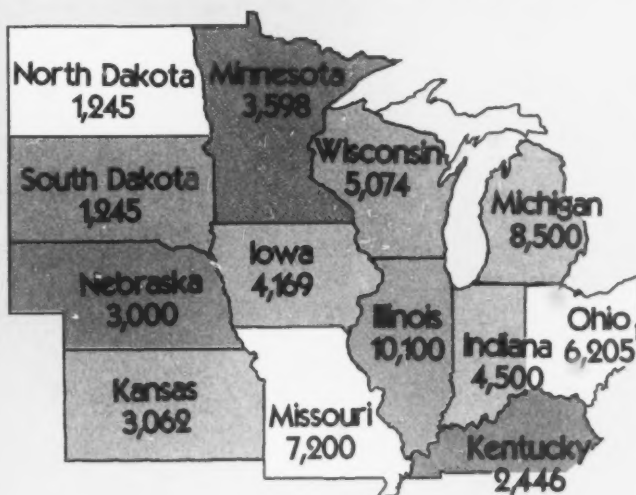
About two-thirds of the numbers gathered by NPN are "hard" numbers, i.e., figures based on registration, licensing and tax division compilations. The remaining one-third ranges from "unofficial" estimates and in a couple of cases "guesstimates" based on the best available knowledge.

The totals for about half of the states indicate their gasoline outlet populations today are greater than they were in 1972. That was surprising in its own right because the general assumption had been that all 50 states had declined, that none was better off now than 20 years ago.

Some of the state totals seem exaggerated and out of step with reality. Take North Carolina, for example. It gave its



# MIDWEST



retail outlet population as 10,643, which makes it the third greatest in the nation—bigger than Florida, Illinois and other populous areas that have much higher gasoline consumption totals. But North Carolina has an annual reporting procedure that counts its retail gasoline outlets county by county.

"We have a lot of small ones down here, probably more than any other state," says a state association executive. "They're just about everywhere. I wouldn't be surprised at all at the number of 10,000 gal./mo. and 20,000 gal./mo. outlets we have, the kind you don't often find in most places anymore."

California, with the most outlets in the country, was a real problem child in getting an estimate. In 1972, California had almost 20,000 outlets. Today its Equalization Board can come up with a figure for true service stations, but confesses it has "no idea" how many convenience store types with gasoline there are. Secondary sources were used to get an acceptable (and authoritative) total for California.

A Washington state official says she had been trying for a year to get a retail gasoline station population total for her state by contacting state department officials she thought should know. No one, she says, had anything. Completely frustrated, she's now in the process of making her own count and hopes to have it completed this month or next.

Texas was another state that provided a total for true service stations but said it didn't know how many C-stores sold

gasoline, even though most sources in the Lone Star State say it would be easier to count those that don't than those that do.

The importance of convenience stores as gasoline marketers cannot be ignored. Collectively, they sell billions of gallons of gasoline annually, perhaps as much as

20-25% of the national total. Realistically, it's virtually impossible to get specific statistics. There are no state-by-state breakouts on population totals, there are only guesses.

States that have kept up with their retail gasoline outlet populations in recent years include North Carolina, Florida, Iowa, Kansas and Maryland, to name a few.

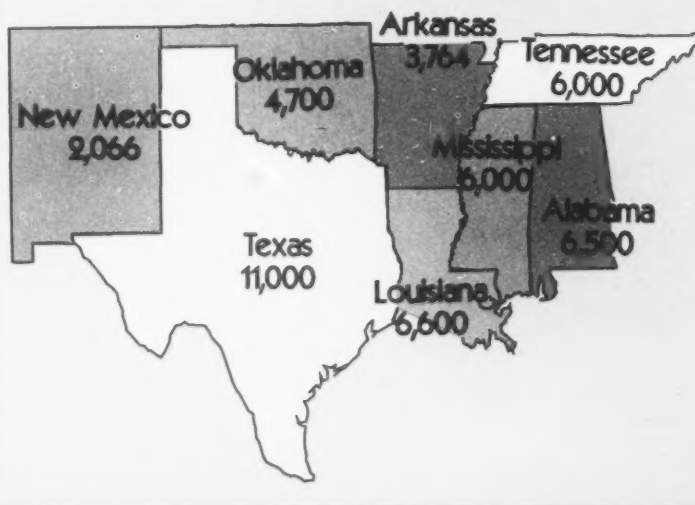
States that now have more outlets than they did in 1972 include North Carolina, Mississippi, Louisiana, Alabama, Arizona, Iowa, South Carolina, Virginia, Florida and Missouri.

States that have lost ground include Texas, California, Ohio, Pennsylvania, New York, Massachusetts, New Jersey, Indiana, Kentucky and Minnesota. Texas' total is off 6,000, while California, Ohio and Pennsylvania's are down by at least 5,000.

"Somewhere, somehow, the federal government, the state governments or petroleum marketers themselves will have to do something about this," says one state official. "With all the licensing, tax, UST, Stage II and other regulations we have to live with, isn't it ironic we can't even tell you how many business places we have in the individual states and nationally? It's like saying we have a church full of people but no one knows how many parishioners are in the place."

As a service to the industry and to enhance its reputation as a source of factual petroleum marketing data, NPN plans to update its state-by-state scoreboard in 1992 and in subsequent years.

# SOUTH



# Gasoline Shares by Key Categories—1990

A study of U.S. retail gasoline market shares was undertaken in 1985 by MPSI Inc., a Tulsa, Okla., firm specializing in international computer software and information services as well as market research and planning. Shown below is MPSI's updated study covering the year 1990.

Included with the data on regional and

national market shares for 1990 (see table below) are the comparable figures for 1989. This comparison offers indications of the trends within the various outlet groupings.

The study breaks out, on both a national and regional basis, market shares and percentages of outlets for conventional service stations, volume pumpers,

convenience stores that sell gasoline, plus a catch-all category of "others" including car washes, garages and other facilities.

This study covers primarily the metropolitan areas of the U.S. where most gasoline is marketed. No attempt was made to count rural vendors or highway units, which while important to the industry, do not add greatly to overall consumption.

## U.S. Regional and National Market Shares

| Region                          | Service Stations |        | Pumpers |         | Convenience Food Stores |        | Others |        | Total  |        |
|---------------------------------|------------------|--------|---------|---------|-------------------------|--------|--------|--------|--------|--------|
|                                 | 1990             | 1989   | 1990    | 1989    | 1990                    | 1989   | 1990   | 1989   | 1990   | 1989   |
| <b>Northeastern Region</b>      |                  |        |         |         |                         |        |        |        |        |        |
| • % of Outlets                  | 60.6             | 61.0   | 22.3    | 21.7    | 6.3                     | 6.2    | 10.8   | 11.1   | 100.0  | 100.0  |
| • % of Volume                   | 54.7             | 55.9   | 39.2    | 38.5    | 3.6                     | 3.4    | 2.5    | 2.2    | 100.0  | 100.0  |
| • Avg. Monthly Volume (Gallons) | 62,611           | 64,132 | 121,861 | 123,818 | 39,847                  | 38,591 | 15,974 | 14,252 | 69,360 | 69,996 |
| <b>Midwestern Region</b>        |                  |        |         |         |                         |        |        |        |        |        |
| • % of Outlets                  | 35.9             | 36.0   | 43.7    | 44.2    | 9.2                     | 8.3    | 11.2   | 11.5   | 100.0  | 100.0  |
| • % of Volume                   | 28.2             | 27.9   | 63.0    | 62.5    | 6.0                     | 6.8    | 2.8    | 2.8    | 100.0  | 100.0  |
| • Avg. Monthly Volume (Gallons) | 59,220           | 59,197 | 108,706 | 107,771 | 42,642                  | 43,077 | 18,802 | 18,327 | 74,782 | 76,256 |
| <b>Sunbelt Region</b>           |                  |        |         |         |                         |        |        |        |        |        |
| • % of Outlets                  | 22.0             | 24.4   | 34.5    | 32.6    | 33.2                    | 32.2   | 10.3   | 10.8   | 100.0  | 100.0  |
| • % of Volume                   | 23.4             | 23.5   | 57.8    | 57.1    | 15.7                    | 10.0   | 3.1    | 3.4    | 100.0  | 100.0  |
| • Avg. Monthly Volume (Gallons) | 55,613           | 55,943 | 101,853 | 101,915 | 28,735                  | 28,934 | 18,343 | 18,176 | 58,798 | 58,173 |
| <b>Western Region</b>           |                  |        |         |         |                         |        |        |        |        |        |
| • % of Outlets                  | 45.6             | 45.8   | 34.2    | 34.1    | 12.4                    | 11.9   | 7.8    | 8.2    | 100.0  | 100.0  |
| • % of Volume                   | 42.6             | 45.2   | 50.0    | 47.5    | 5.4                     | 5.3    | 2.0    | 2.0    | 100.0  | 100.0  |
| • Avg. Monthly Volume (Gallons) | 70,428           | 65,056 | 127,931 | 120,367 | 38,252                  | 38,188 | 22,593 | 20,967 | 82,356 | 81,352 |
| <b>Total United States</b>      |                  |        |         |         |                         |        |        |        |        |        |
| • % of Outlets                  | 38.4             | 39.8   | 33.2    | 32.3    | 18.3                    | 17.4   | 10.1   | 10.5   | 100.0  | 100.0  |
| • % of Volume                   | 36.4             | 37.7   | 52.5    | 51.2    | 8.5                     | 8.5    | 2.6    | 2.6    | 100.0  | 100.0  |
| • Avg. Monthly Volume (Gallons) | 62,479           | 61,669 | 112,230 | 110,898 | 32,220                  | 33,948 | 18,524 | 17,631 | 69,036 | 70,023 |

Source: MPSI Inc., Tulsa, Okla.



## Business at Service Stations

(Dollar Volume and Product Sales)

| Year     | No. of service stations | Total sales (Add 000,000,000) | Avg. sales per station (Add 000) | Passenger car population (Add 000) | Gasoline                            |                                      |
|----------|-------------------------|-------------------------------|----------------------------------|------------------------------------|-------------------------------------|--------------------------------------|
|          |                         |                               |                                  |                                    | Avg. gal. consumed per car per year | Total consumption (Add 000,000 gal.) |
| 1990 (a) | 210,000                 | N/A                           | N/A                              | 145,010                            | 506                                 | 73,375                               |
| 1989 (b) | 111,700                 | \$115.0                       | \$1,030                          | 144,375                            | 500                                 | 72,188                               |
| 1988     | 112,000                 | 91.9                          | 821                              | 142,209                            | 507                                 | 72,099                               |
| 1987     | 115,870                 | 89.2                          | 770                              | 140,693                            | 515                                 | 72,457                               |
| 1985     | 124,600                 | 100.8                         | 809                              | 131,864                            | 525                                 | 69,229                               |
| 1983     | 136,570                 | 103.1                         | 755                              | 126,727                            | 553                                 | 70,080                               |
| 1981     | 131,250                 | 101.7                         | 672                              | 123,482                            | 576                                 | 71,114                               |
| 1979     | 164,790                 | 70.9                          | 430                              | 120,248                            | 653                                 | 78,522                               |
| 1977     | 176,465                 | 56.5                          | 320                              | 113,696                            | 716                                 | 81,406                               |
| 1975     | 189,480                 | 43.8                          | 232                              | 106,712                            | 716                                 | 76,406                               |
| 1972 (c) | 226,459                 | 33.7                          | 149                              | 96,567                             | 785                                 | 75,805                               |

(a) In late 1990, NPN began its own annual survey of service stations to come up with verifiable population totals. NPN plans to continue this annual survey and provide the industry with the best possible data. Unlike the earlier totals in this series, the NPN totals include all places where motorists can buy gasoline for their cars—service stations, convenience stores, etc., alike. See this special report elsewhere in this retail market section.

(b) Franchising in the Economy, U.S. Dept. of Commerce, by definition, these stations are the ones that get 50% or more of their gross sales from gasoline products.

(c) Peak year for service station population totals.

Sources: NPN, U.S. Dept. of Commerce, and Federal Highway Administration.

## Station Customers

| Year     | No. of service stations | Privately owned passenger cars |                  | Households owning cars* |                  | Licensed drivers    |                  | Women drivers       |                  |
|----------|-------------------------|--------------------------------|------------------|-------------------------|------------------|---------------------|------------------|---------------------|------------------|
|          |                         | Total (Add 000)                | Avg. per station | Total (Add 000)         | Avg. per station | Total (Add 000,000) | Avg. per station | Total (Add 000,000) | Avg. per station |
| 1990 (a) | 210,000                 | 145,010                        | 691              | 80.0                    | 381              | 167.7               | 799              | 81.2                | 387              |
| 1989     | 111,700                 | 144,375                        | 1,293            | 78.5                    | 703              | 164.9               | 1,476            | 79.7                | 706              |
| 1988     | 112,000                 | 142,209                        | 1,270            | 78.0                    | 696              | 164.2               | 1,466            | 78.9                | 704              |
| 1987     | 115,870                 | 139,041                        | 1,200            | 77.0                    | 665              | 161.8               | 1,396            | 77.8                | 671              |
| 1985     | 124,600                 | 132,108                        | 1,060            | 75.0                    | 602              | 156.9               | 1,259            | 75.3                | 604              |
| 1983     | 136,570                 | 126,727                        | 927              | 73.0                    | 534              | 154.2               | 1,129            | 73.4                | 537              |
| 1981     | 131,250                 | 123,482                        | 816              | 70.0                    | 460              | 147.0               | 969              | 69.2                | 457              |
| 1979     | 164,790                 | 120,248                        | 731              | 65.9                    | 400              | 143.3               | 868              | 66.8                | 403              |
| 1977     | 176,465                 | 113,696                        | 644              | 63.3                    | 365              | 138.4               | 784              | 63.7                | 361              |
| 1975     | 189,480                 | 106,712                        | 563              | 60.5                    | 319              | 127.8               | 662              | 56.8                | 294              |
| 1972 (b) | 226,459                 | 96,567                         | 426              | 52.8                    | 232              | 118.4               | 522              | 52.6                | 232              |

(a) See footnote above.

(b) Peak year for service stations population totals.

(\*) Estimated; no hard data available anymore.

## How Stations Rank in Sales

(Billions of Dollars)

|                            | 1990    | % Change '90-'89 | 1989    | % Change '89-'88 | 1988    | % Change '88-'87 | 1987    | % Change '87-'86 |
|----------------------------|---------|------------------|---------|------------------|---------|------------------|---------|------------------|
| All Retail Stores          | \$1,799 | 5.1%             | \$1,711 | 5.0%             | \$1,629 | 7.8%             | \$1,511 | 5.1%             |
| Automotive Group           | 375     | —                | 376     | 2.0              | 369     | 12.9             | 327     | 2.1              |
| Food Group                 | 365     | 2.8              | 355     | 6.9              | 332     | 5.7              | 314     | 4.1              |
| General Merchandise        | 211     | 8.8              | 194     | 5.4              | 184     | 4.5              | 176     | 6.5              |
| Eating and Drinking Places | 181     | 9.7              | 165     | 4.6              | 158     | 6.7              | 148     | 9.1              |
| Gasoline Service Stations  | 129     | 17.3             | 110     | 7.5              | 102     | (1.4)            | 103     | 6.1              |
| Apparel Group              | 94      | 3.2              | 91      | 11.3             | 82      | 2.3              | 79      | 5.7              |

Source: Survey of Current Business, Dept. of Commerce, Vol. 70, No. 1 January 1991.

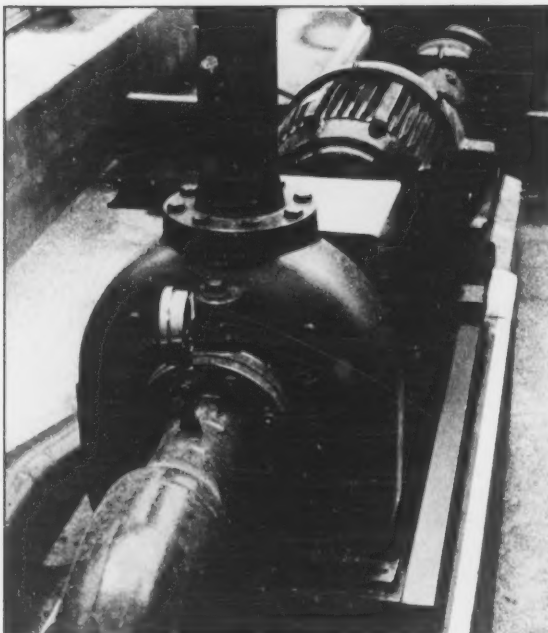
## Personal Consumption Expenditures

(Billions of Dollars)

|                        | 1990    | % Change '90-'89 | 1989    | % Change '89-'88 | 1988    | % Change '88-'87 | 1987    | % Change '87-'86 |
|------------------------|---------|------------------|---------|------------------|---------|------------------|---------|------------------|
| Total Expenditures     | \$3,658 | 5.4%             | \$3,470 | 7.3%             | \$3,235 | 7.7%             | \$3,012 | 7.6%             |
| Durable Goods          | 482     | 1.7              | 474     | 4.2              | 455     | 7.8              | 422     | 4.8              |
| Automobiles            | 213     | —                | 214     | 1.1              | 212     | 8.2              | 196     | 0.5              |
| Furniture              | 177     | 1.7              | 174     | 7.2              | 162     | 10.6             | 148     | 6.0              |
| Other Durable          | 92      | 7.0              | 86      | 5.3              | 82      | 4.9              | 78      | 15.1             |
| Nondurable Goods       | 1,194   | 6.3              | 1,123   | 6.7              | 1,052   | 5.5              | 998     | 6.2              |
| Food                   | 625     | 5.0              | 595     | 6.3              | 560     | 6.4              | 526     | 5.7              |
| Clothing and Shoes     | 213     | 6.5              | 200     | 7.0              | 187     | 4.7              | 178     | 6.4              |
| Gasoline and Oil       | 94      | 11.9             | 84      | 8.7              | 77      | (0.2)            | 77      | 2.3              |
| Other Nondurable Goods | 262     | 7.4              | 244     | 6.6              | 229     | 5.9              | 216     | 8.8              |
| Fuel Oil and Coal      | 19      | (0.5)            | 20      | 3.6              | 20      | 20.4             | 16      | 1.3              |
| Other Nondurable       | 244     | 8.9              | 224     | 6.9              | 210     | 4.7              | 200     | 9.5              |
| Services               | 1,982   | 5.8              | 1,874   | 8.5              | 1,728   | 8.5              | 1,592   | 9.2              |

Source: Survey of Current Business, Dept. of Commerce, Vol. 70, No. 1 January 1991.





## PETROLEUM HANDLING PUMPS

Gorman-Rupp "O" Series self-priming centrifugal pumps feature straight in suction which eliminates entrance restrictions and provides better suction performance when handling solvents, petroleum products and similar liquids.

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## Self-Serve Preference Still Growing

United States motorists continue to choose self service by a wide margin over full service when purchasing gasoline, according to Amoco Oil Co. marketing research. Since 1975, self service gasoline sales have grown dramatically, from 22% to 81% in 1989.

Last year was no different. The market share for self-serve last year bumped up another two percentage points to 83% over 1989. The growth curve has leveled off in the past couple of years, but the data shows that almost five out of six Americans now prefer self-serve.

### Percent Self-Serve Motorist Gasoline Sold by Brand Total 1989 versus Total 1990—Total U.S.

| Brand    | 1989 | 1990 | Chg. | Brand        | 1989 | 1990 | Chg. |
|----------|------|------|------|--------------|------|------|------|
| Arco     | 92   | 91   | -1   | Sohio/BP     | 82   | 81   | -1   |
| Phillips | 88   | 88   | NC   | Texaco       | 79   | 80   | +1   |
| Conoco   | 86   | 87   | +1   | Chevron      | 78   | 79   | +1   |
| Citgo    | 86   | 86   | NC   | Exxon        | 78   | 79   | +1   |
| Shell    | 85   | 86   | +1   | Mobil        | 75   | 76   | +1   |
| Union    | 84   | 85   | +1   | Sunoco       | 59   | 62   | +3   |
| Amoco    | 82   | 83   | +1   | Independents | 87   | 87   | NC   |
|          |      |      |      | Industry     | 81   | 83   | +2   |

### Self-Serve Motorist Gasoline Market Share by State (Percent) Total 1989 versus Total 1990

| State          | 1989 | 1990 | Chg. |
|----------------|------|------|------|
| Alabama        | 83   | 85   | +2   |
| Arizona        | 94   | 95   | +1   |
| Arkansas       | 85   | 87   | +2   |
| California     | 92   | 93   | +1   |
| Colorado       | 94   | 95   | +1   |
| Connecticut    | 74   | 77   | +3   |
| Delaware       | 86   | 88   | +2   |
| Dist. of Col.  | 87   | 89   | +2   |
| Florida        | 92   | 94   | +2   |
| Georgia        | 89   | 91   | +2   |
| Idaho          | 90   | 91   | +1   |
| Illinois       | 90   | 91   | +1   |
| Indiana        | 88   | 89   | +1   |
| Iowa           | 85   | 87   | +2   |
| Kansas         | 84   | 87   | +3   |
| Kentucky       | 80   | 83   | +3   |
| Louisiana      | 91   | 93   | +2   |
| Maine          | 57   | 62   | +5   |
| Maryland       | 87   | 89   | +2   |
| Massachusetts  | 53   | 57   | +4   |
| Michigan       | 89   | 90   | +1   |
| Minnesota      | 84   | 86   | +2   |
| Mississippi    | 83   | 86   | +3   |
| Missouri       | 85   | 88   | +3   |
| Montana        | 91   | 92   | +1   |
| Nebraska       | 82   | 83   | +1   |
| Nevada         | 94   | 94   | NC   |
| New Hampshire  | 68   | 71   | +3   |
| New Mexico     | 92   | 92   | NC   |
| New York       | 60   | 63   | +3   |
| North Carolina | 89   | 91   | +2   |
| North Dakota   | 81   | 84   | +3   |
| Ohio           | 87   | 88   | +1   |
| Oklahoma       | 86   | 89   | +3   |
| Pennsylvania   | 68   | 71   | +3   |
| Rhode Island   | 69   | 71   | +2   |
| South Carolina | 90   | 91   | +1   |
| South Dakota   | 80   | 83   | +3   |
| Tennessee      | 85   | 87   | +2   |
| Texas          | 92   | 93   | +1   |
| Utah           | 95   | 96   | +1   |
| Vermont        | 62   | 61   | -1   |
| Virginia       | 90   | 91   | +1   |
| Washington     | 92   | 94   | +2   |
| West Virginia  | 78   | 81   | +3   |
| Wisconsin      | 90   | 92   | +2   |
| Wyoming        | 85   | 87   | +2   |

# Major Brand Retail Outlet Rankings

The annual nose count of branded retail outlets of the major and semi-major oil companies did not change the retail rankings all that much in 1990. More important than the actual rankings of companies is the continued attrition of total number of outlets for most of the companies reporting to NPN's annual survey. However, these figures do not indicate an industry in decline. Most of the majors have been trimming their retail networks for the past several years in an attempt to gain marketing efficiencies and higher throughputs per outlet.

Of the 20 companies reporting, 17 had fewer retail outlets at the end of last year than in 1989. Among the top ten companies, eight reported a total loss of 6,440 outlets, while two companies increased their outlet numbers by a total of 2,155. Citgo, which has been aggressively expanding its retail network, added more than 2,000 stations to its branded stable in 1990. The company also expanded into four new states during the year. In 1990, Citgo moved up to fifth place in the rankings.

Nine out of ten of the second group of companies reported declines in retail outlets for the year. The net loss was 2,306 units.

| Company                            | No. of Outlets | 1989 Ranking |
|------------------------------------|----------------|--------------|
| 1. <b>Texaco</b>                   | 15,111         | (1)          |
| 2. <b>Exxon</b>                    | 11,673         | (2)          |
| 3. <b>Unocal</b>                   | 10,500*        | (3)          |
| 4. <b>Amoco</b>                    | 9,802          | (5)          |
| 5. <b>Citgo</b>                    | 9,734          | (9)          |
| 6. <b>Chevron</b>                  | 9,664          | (4)          |
| 7. <b>Shell</b>                    | 9,389          | (6)          |
| 8. <b>Mobil</b>                    | 9,001          | (7)          |
| 9. <b>Phillips</b>                 | 7,907          | (8)          |
| 10. <b>BP America</b>              | 7,531          | (10)         |
| 11. <b>Sun</b>                     | 6,019          | (11)         |
| 12. <b>Conoco</b>                  | 4,915**        | (12)         |
| 13. <b>Gulf (Cumberland Farms)</b> | 3,994          | (13)         |
| 14. <b>American Petrofina</b>      | 3,136          | (14)         |
| 15. <b>Total</b>                   | 2,698          | (15)         |
| 16. <b>Getty</b>                   | 2,202          | (17)         |
| 17. <b>Marathon</b>                | 2,132          | (16)         |
| 18. <b>Ashland</b>                 | 1,968          | (19)         |
| 19. <b>Diamond Shamrock</b>        | 1,914          | (18)         |
| 20. <b>Kerr-McGee</b>              | 1,588          | (20)         |
| 21. <b>Arco</b>                    | 1,541          | (21)         |

\*Includes approximately 3,000 Uno-ven units in the Midwest.

\*\*Did not report 1990 totals. Totals shown are for 1989.

|                                | Number of States |      | Branded Retail Outlets |        |
|--------------------------------|------------------|------|------------------------|--------|
|                                | 1990             | 1989 | 1990                   | 1989   |
| <b>American Petrofina</b>      | 25               | 23   | 3,136                  | 3,177  |
| <b>Amoco</b>                   | 33               | 31   | 9,802                  | 9,909  |
| <b>Arco</b>                    | 5                | 5    | 1,541                  | 1,699  |
| <b>Ashland</b>                 | 18               | 18   | 1,968                  | 1,800  |
| <b>BP America</b>              | 33               | 26   | 7,531                  | 7,413  |
| <b>Chevron</b>                 | 33               | 33   | 9,664                  | 10,682 |
| <b>Citgo</b>                   | 46               | 42   | 9,734                  | 7,697  |
| <b>Conoco</b>                  | *                | 37   | *                      | 4,915  |
| <b>Diamond Shamrock</b>        | 8                | 8    | 1,914                  | 1,947  |
| <b>Exxon</b>                   | 40               | 38   | 11,673                 | 12,091 |
| <b>Getty</b>                   | 13               | 13   | 2,202                  | 2,240  |
| <b>Gulf (Cumberland Farms)</b> | 14               | 14   | 3,994                  | 4,091  |
| <b>Kerr-McGee</b>              | 20               | 20   | 1,588                  | 1,786  |
| <b>Marathon</b>                | 9                | 8    | 2,132                  | 2,516  |
| <b>Mobil</b>                   | 32               | 33   | 9,001                  | 9,486  |
| <b>Phillips</b>                | 29               | 35   | 7,907                  | 8,656  |
| <b>Shell</b>                   | 41               | 40   | 9,389                  | 9,763  |
| <b>Sun</b>                     | 28               | 28   | 6,019                  | 6,445  |
| <b>Texaco</b>                  | 49               | 49   | 15,111                 | 16,890 |
| <b>Total</b>                   | 22               | 22   | 2,698                  | 2,776  |
| <b>Unocal</b>                  | 41               | 43   | 10,500**               | 11,000 |

\*Did not report 1990 totals.

\*\*Includes an estimated 3,000 Uno-ven units in the Midwest.

Source: NPN questionnaires.

## Industry Averages by Product Category

|                                           | Percent of Merchandise Purchases |             | Gross Margin Percentage |            | Inventory Turnover Rate |             |
|-------------------------------------------|----------------------------------|-------------|-------------------------|------------|-------------------------|-------------|
|                                           | 1990                             | 1989        | 1990                    | 1989       | 1990                    | 1989        |
| <b>Cooler</b>                             |                                  |             |                         |            |                         |             |
| Beef .....                                | 14.2%                            | 14.0%       | 24%                     | 25%        | 21.2                    | 20.8        |
| Soft Drinks .....                         | 9.4                              | 9.8         | 34                      | 34         | 16.9                    | 17.6        |
| Juices .....                              | 2.1                              | 2.0         | 40                      | 40         | 11.4                    | 17.0        |
| Milk & Milk Products .....                | 5.2                              | 5.1         | 23                      | 22         | 51.9                    | 45.4        |
| Packaged Deli .....                       | 0.9                              | 0.7         | 35                      | 32         | 23.9                    | 14.4        |
| Produce .....                             | 0.1                              | 0.6         | 31                      | 25         | 25.4                    | 29.0        |
| Eggs .....                                | 0.1                              | 0.6         | 22                      | 25         | 16.9                    | 22.4        |
| <b>Frozen</b>                             |                                  |             |                         |            |                         |             |
| Frozen Food .....                         | 1.2                              | 1.4         | 34                      | 35         | 6.4                     | 6.1         |
| Ice Cream .....                           | 2.5                              | 1.1         | 38                      | 37         | 13.0                    | 12.2        |
| Ice .....                                 | 0.8                              | 0.8         | 58                      | 58         | 13.8                    | 22.4        |
| <b>Room Temp.</b>                         |                                  |             |                         |            |                         |             |
| Bread & Cakes .....                       | 3.6                              | 2.5         | 31                      | 30         | 54.0                    | 47.5        |
| Cookies .....                             | 0.5                              | 1.6         | 36                      | 35         | 12.5                    | 12.2        |
| Salty Snacks (Chips, Nuts, etc.) .....    | 4.5                              | 3.6         | 37                      | 38         | 19.1                    | 24.7        |
| Candy & Gum .....                         | 5.4                              | 5.3         | 45                      | 44         | 9.9                     | 16.4        |
| Groceries .....                           | 2.9                              | 3.9         | 33                      | 34         | 7.0                     | 8.6         |
| Health/Beauty .....                       | 2.5                              | 2.3         | 39                      | 38         | 5.2                     | 7.9         |
| Tobacco .....                             | 24.0                             | 23.3        | 26                      | 26         | 14.1                    | 18.6        |
| Publications .....                        | 4.2                              | 3.4         | 21                      | 21         | 13.9                    | 12.8        |
| Wine/Liquor .....                         | 0.9                              | 0.9         | 31                      | 31         | 9.0                     | 9.3         |
| Auto/Motor Oil .....                      | 0.7                              | 0.8         | 38                      | 33         | 8.6                     | 8.9         |
| General Merchandise .....                 | 3.4                              | 3.8         | 40                      | 41         | 8.8                     | 9.8         |
| <b>Fast Food</b>                          |                                  |             |                         |            |                         |             |
| Sandwiches/Fresh .....                    | 0.9                              | 1.2         | 49                      | 42         | 56.1                    | 66.8        |
| Sandwiches/Frozen .....                   | 1.0                              | 0.8         | 39                      | 37         | 16.0                    | 24.1        |
| Deli Services (excluding sandwiches) .... | 1.1                              | 2.0         | 34                      | 37         | 34.1                    | 35.0        |
| <b>Food Cooked</b>                        |                                  |             |                         |            |                         |             |
| On-Site .....                             | 1.0                              | 0.9         | 36                      | 37         | 45.2                    | 93.8        |
| Fountain Drinks .....                     | 3.5                              | 3.7         | 59                      | 61         | 17.7                    | 28.9        |
| Frozen Beverages .....                    | 0.6                              | 0.7         | 53                      | 53         | 10.9                    | 25.7        |
| Hot Beverages .....                       | 2.4                              | 2.4         | 68                      | 68         | 16.5                    | 35.0        |
| Other Fast Food .....                     | 0.4                              | 0.8         | 46                      | 46         | 12.1                    | 44.0        |
| <b>Total Merchandise .....</b>            | <b>100%</b>                      | <b>100%</b> | <b>32%</b>              | <b>32%</b> | <b>11.4</b>             | <b>11.1</b> |

Source: NACS "1991 State of the Convenience Store Industry" report.

## Comparison of Profits and Losses: 1990-1989

(Percent of Total Sales)

|                                      | 11-50 Stores |             | 51-100      |             | 101-500     |             | Over 500    |             | Average     |             |
|--------------------------------------|--------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
|                                      | 1990         | 1989        | 1990        | 1989        | 1990        | 1989        | 1990        | 1989        | 1990        | 1989        |
| Merchandise Sales .....              | 32.0%        | 35.5%       | 49.5%       | 47.0%       | 41.5%       | 42.8%       | 57.1%       | 63.8%       | 46.1%       | 48.9%       |
| Gasoline Sales .....                 | 68.0         | 64.5        | 50.5        | 53.0        | 58.5        | 57.2        | 42.9        | 36.2        | 53.9        | 51.1        |
| <b>Total Sales .....</b>             | <b>100%</b>  | <b>100%</b> | <b>100%</b> | <b>100%</b> | <b>100%</b> | <b>100%</b> | <b>100%</b> | <b>100%</b> | <b>100%</b> | <b>100%</b> |
| Cost of Goods Sold .....             | 83.2         | 82.3        | 78.6        | 78.7        | 80.8        | 79.8        | 75.8        | 74.0        | 79.3        | 78.2        |
| Gross Profit .....                   | 16.8         | 17.7        | 21.4        | 21.3        | 19.2        | 20.2        | 24.2        | 26.0        | 20.7        | 21.8        |
| Direct Store Operating Expense ..... | 13.3         | 14.4        | 18.1        | 16.6        | 15.4        | 15.4        | 19.8        | 20.7        | 16.9        | 17.2        |
| Store Operating Profit .....         | 3.5          | 3.3         | 3.3         | 4.7         | 3.8         | 4.8         | 4.4         | 5.3         | 3.8         | 4.6         |
| Corporate G&A .....                  | (2.8)        | (3.1)       | (3.2)       | (2.9)       | (2.9)       | (3.2)       | (4.4)       | (3.1)       | (3.4)       | (3.1)       |
| Other Income .....                   | 1.0          | 1.3         | 1.4         | 1.4         | 1.0         | 1.0         | 1.0         | 1.0         | 1.1         | 1.2         |
| Other Expense .....                  | (0.1)        | (0.1)       | (0.2)       | (0.4)       | (0.4)       | (0.8)       | (0.4)       | (0.1)       | (0.2)       | (0.3)       |
| Pretax Profit .....                  | 1.2%         | 1.1%        | 0.6%        | 1.9%        | 0.1%        | (0.4%)      | (2.6%)      | (1.1%)      | (0.2%)      | 0.4%        |

Source: NACS "1991 State of the Convenience Store Industry" report.

## Average Investment Per New Convenience Store

|                              | 1990             |                  | 1989             |                  | 1988             |                  | 1987             |                  | 1986             |                  |
|------------------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
|                              | Urban            | Rural            | Urban            | Rural            | Urban            | Rural            | Urban            | Rural            | Urban            | Rural            |
| Land .....                   | \$298,300        | \$178,000        | \$375,300        | \$179,500        | \$350,500        | \$148,000        | 266,000          | 156,900          | 275,400          | 141,500          |
| Building .....               | 264,300          | 194,700          | 278,200          | 183,200          | 199,100          | 156,500          | 181,300          | 152,800          | 158,300          | 141,500          |
| <b>Equipment</b>             |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |
| Fast Food .....              | 48,000           | 16,600           | 33,900           | 23,100           | 21,900           | 17,100           | 22,100           | 17,700           | 19,900           | 18,500           |
| Gas .....                    | 153,900          | 107,500          | 118,300          | 103,900          | 84,500           | 95,200           | 84,900           | 85,300           | 88,000           | 89,500           |
| Merchandise .....            | 54,500           | 41,000           | 51,700           | 38,000           | 65,600           | 62,500           | 64,500           | 51,500           | 68,300           | 55,300           |
| <b>Total .....</b>           | <b>256,400</b>   | <b>165,100</b>   | <b>203,900</b>   | <b>165,000</b>   | <b>172,000</b>   | <b>174,800</b>   | <b>171,500</b>   | <b>154,500</b>   | <b>176,400</b>   | <b>163,300</b>   |
| Inventory .....              | 63,400           | 41,200           | 61,300           | 43,800           | 51,600           | 53,400           | 64,000           | 53,200           | 58,600           | 50,100           |
| <b>Total Investment ....</b> | <b>\$882,400</b> | <b>\$579,000</b> | <b>\$918,700</b> | <b>\$571,500</b> | <b>\$773,300</b> | <b>\$532,700</b> | <b>\$682,800</b> | <b>\$517,400</b> | <b>\$586,600</b> | <b>\$496,400</b> |

Source: NACS "1991 State of the Convenience Store Industry" report.

## Percent of Stores Offering the Following by Classification Group

| Stores                                                 | 11-50 |      | 51-100 |      | 101-500 |      | Over 500 |      | Average |      |
|--------------------------------------------------------|-------|------|--------|------|---------|------|----------|------|---------|------|
|                                                        | 1989  | 1988 | 1989   | 1988 | 1989    | 1988 | 1989     | 1988 | 1989    | 1988 |
| <b>Specialty Products Offered:</b>                     |       |      |        |      |         |      |          |      |         |      |
| Prepared Foods (On site) .....                         | 29%   | —    | 36%    | —    | 40%     | —    | 37%      | —    | 37%     | —    |
| Prepared Foods (Fast Food) .....                       | 81    | 81   | 84     | 62   | 62      | 65   | 95       | 83   | 90      | 83   |
| Service Deli .....                                     | 27    | 33   | 27     | 25   | 20      | 38   | 39       | 39   | 35      | 39   |
| On-Premise Bakery .....                                | 7     | 9    | 9      | 7    | 2       | 20   | 7        | 6    | 6       | 6    |
| Fried Chicken .....                                    | 12    | 13   | 8      | 9    | 3       | 2    | 2        | 3    | 3       | 3    |
| Pizza .....                                            | 15    | 20   | 16     | 6    | 11      | 3    | 15       | 4    | 14      | 4    |
| Hot Dogs .....                                         | 72    | —    | 63     | —    | 54      | —    | 78       | —    | 74      | —    |
| Other .....                                            | 5     | 9    | 6      | 5    | 14      | —    | 4        | 4    | 4       | 4    |
| <b>Services Offered:</b>                               |       |      |        |      |         |      |          |      |         |      |
| Microwave Equipment .....                              | 95    | 88   | 99     | 95   | 65      | 88   | 95       | 95   | 92      | 95   |
| Lottery Tickets .....                                  | 49    | 43   | 52     | 43   | 50      | 59   | 57       | 51   | 55      | 51   |
| Vending Machines .....                                 | 21    | 18   | 7      | 5    | 11      | 1    | —        | 2    | 3       | 2    |
| Video Games .....                                      | 16    | 14   | 35     | 48   | 52      | 25   | 67       | 55   | 60      | 55   |
| Film Processing .....                                  | 3     | 2    | 13     | 3    | 1       | 2    | —        | 1    | 1       | 1    |
| Video Rentals .....                                    | 30    | 22   | 31     | 35   | 14      | 36   | 38       | 44   | 35      | 40   |
| Money Orders .....                                     | 56    | 44   | 67     | 64   | 83      | 63   | 79       | 89   | 77      | 77   |
| Check Cashing .....                                    | 54    | 56   | 72     | 60   | 64      | 78   | 16       | 73   | 27      | 71   |
| Automated Teller Machines .....                        | 2     | 4    | 6      | 6    | 8       | 19   | 13       | 8    | 12      | 10   |
| Credit Cards .....                                     | 81    | 68   | 82     | 75   | 58      | 49   | 38       | 73   | 46      | 68   |
| Debit Cards .....                                      | 16    | 8    | 13     | 21   | 23      | 12   | 6        | 21   | 18      | 9    |
| Seating for Fast Food .....                            | 30    | 20   | 10     | 7    | 12      | 6    | 4        | 8    | 7       | 8    |
| POS Scanning .....                                     | 5     | 2    | 7      | 7    | 1       | 0    | 1        | 0    | 1       | 1    |
| Manufacturer Coupon Accepted .....                     | 88    | —    | 95     | —    | 100     | —    | 96       | —    | 95      | —    |
| Other .....                                            | —     | —    | 6      | —    | 14      | —    | —        | —    | 2       | —    |
| <b>Parking/Access (not counting parking at pumps):</b> |       |      |        |      |         |      |          |      |         |      |
| No parking, but convenient                             |       |      |        |      |         |      |          |      |         |      |
| pedestrian access .....                                | 5     | 3    | —      | 2    | 2       | 2    | 8        | 2    | 6       | 2    |
| 1-10 striped spaces .....                              | 53    | 69   | 51     | 47   | 65      | 41   | 53       | 92   | 55      | 72   |
| 10+ striped spaces .....                               | 43    | 25   | 48     | 47   | 33      | 35   | 39       | 6    | 39      | 20   |

Source: NACS "1990 State of the Convenience Store Industry" report.



## C-Store Sales Up, Profits Mixed

Once again, in 1990, the smalls outperformed the bigs in the convenience store industry, at least from a profitability standpoint. While some of the industry's biggest chains were struggling to pull out of Chapter 11, the majority of smaller companies were reporting increased profits for the year.

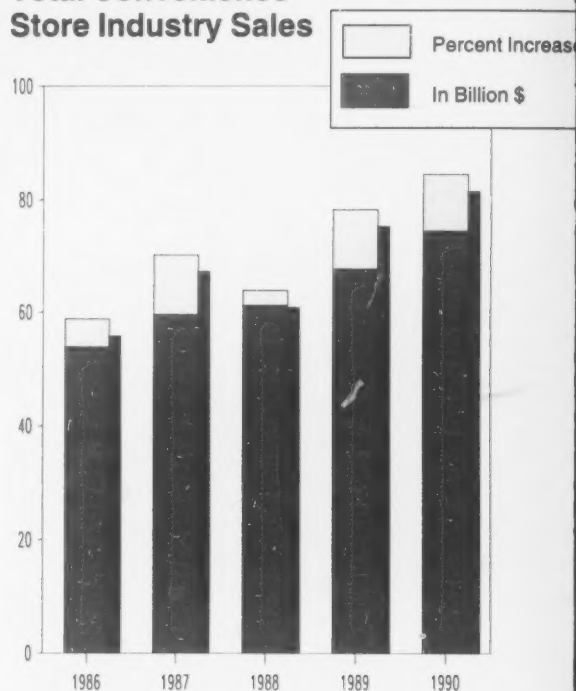
According to preliminary data from the 1991 State of the Convenience Store Industry report from the National Assn. of Convenience Stores, the industry posted a total loss of \$149-million in 1990, compared to a profit of \$271-million in 1989. However, says NACS, the profit picture was deflated by heavy losses from the industry's two largest chains. Companies in the 1-10 store category, on the other hand, had average gains of 50% in 1990 in average pretax profits as a percent of sales. Companies with 11-50 stores increased pretax profits by 10%.

Total industry sales in 1990 were up 10% to 74.5-billion, the NACS report says. The increase was paced by a 26% jump in gasoline sales to \$34-billion. Monthly gallonage increased, too, from 52,000/gal. per store in 1989 to 57,000/gal. in 1990. Merchandise sales, however, were flat, edging down 0.5% to \$40.4-billion. The total number of stores increased by 1.4% in 1990 to 71,200. NACS reports 66% of all stores now sell gasoline.

### C-Store Gross Margin As a Percent of Sales

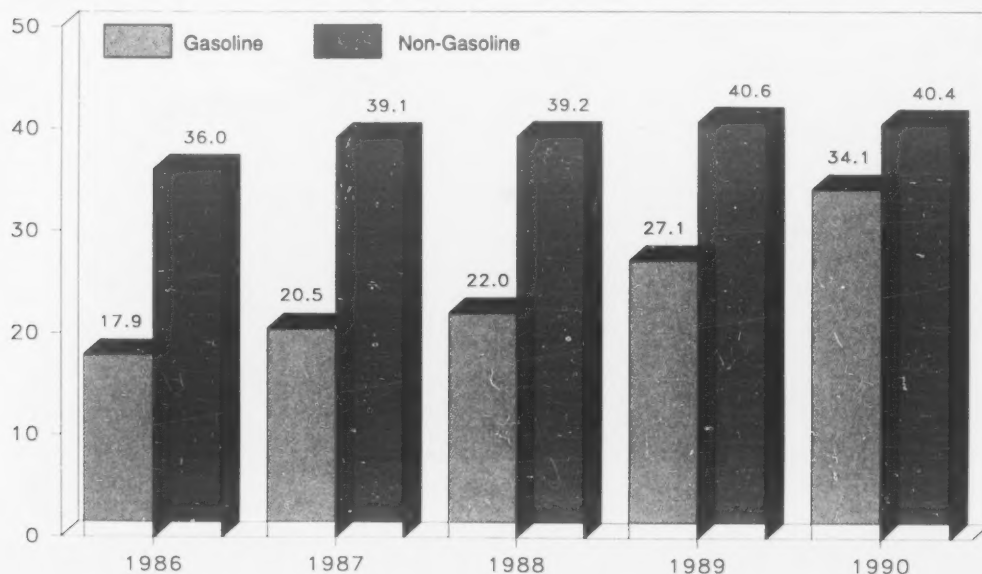
| Survey Year | Gasoline Margin % | Non-Gasoline Margin % | Average Margin % |
|-------------|-------------------|-----------------------|------------------|
| 1989        | 11.7              | 32.1                  | 21.8             |
| 1988        | 11.5              | 36.4                  | 26.2             |
| 1987        | 10.6              | 35.9                  | 24.4             |
| 1986        | 11.2              | 35.5                  | 25.1             |
| 1985        | 7.3               | 32.2                  | 22.8             |

### Total Convenience Store Industry Sales



### Total Non-Gasoline vs. Gasoline Sales

(In billion \$)



## National Petroleum News'

| Company                              | HQ Location          | C-Store Name                           | 1988 Total |
|--------------------------------------|----------------------|----------------------------------------|------------|
| Acme Petroleum Fuel Co., Inc.        | Gastonia, NC         | Handy Pantry Food Stores               | N/A        |
| American Petrofina, Inc.             | Dallas, TX           | Finarmart                              | 150        |
| Amoco                                | Chicago, IL          | Food Mart                              | 1,000      |
| Arkansas Valley Petroleum            | Tulsa, OK            | Git-N-Go                               | 12         |
| Arco Products Company                | Los Angeles, CA      | am/pm mini market                      | 782        |
| Ashland Oil, Inc.                    | Ashland, KY          | Superamerica                           | 500        |
| Aztex Enterprises                    | Knoxville, TN        | Aztex Fuel and Food Centers            | N/A        |
| Bedford Valley Petroleum Corp.       | Everett, PA          | RG's Food Shops, Inc.                  | —          |
| Berwick Bay                          | Morgan City, LA      | Friends/Delta Mart                     | 39         |
| Best Oil Co.                         | Pittsburgh, PA       | Toot-N-Scout                           | 13         |
| BP America, Inc.                     | Cleveland, OH        | Sohio/BP/Gulf Mart                     | 620        |
| Browning Oil Co.                     | Bowling Green, KY    | Shell Food Marts                       | 7          |
| Campbell Oil Co.                     | Massillon, OH        | Spee D Foods                           | 21         |
| Cannon Oil Corp.                     | Dothan, AL           | Cannon                                 | 18         |
| Casey's                              | Des Moines, IA       | Casey's                                | N/A        |
| Cel Oil Products Corp.               | N. Charleston, SC    | Unocal Mart                            | —          |
| Cenex                                | St. Paul, MN         | Cenex C-Stores/Townmart                | 155        |
| Center Independent Oil Co.           | Smock, PA            | Sweet Peas                             | N/A        |
| Certified Oil Co.                    | Columbus, OH         | Certified Mini Marts                   | 7          |
| Champlain Oil Co.                    | South Burlington, VT | Colonial Deli Mart                     | 47         |
| Chevron Corp.                        | San Francisco, CA    | Food Marts                             | 3,896      |
| Circle K Corp.                       | Phoenix, AZ          | Circle K Convenience Stores            | 4,097      |
| Citgo Petroleum Corp.                | Tulsa, OK            | Citgo Quick Mart                       | 15         |
| The Coastal Corp.                    | Houston, TX          | Coastal Mart                           | 900        |
| Coen Oil Co.                         | Canton, OH           | (various)                              | —          |
| Colonial Oil Industries, Inc.        | Savannah, GA         | Enmark                                 | —          |
| Conoco, Inc.                         | Houston, TX          | Conoco/Jet                             | 486        |
| Como Oil Co.                         | Duluth, MN           | Milk House                             | —          |
| Consumers Gasoline Stations          | Nashville, TN        | Scot/Consumers                         | —          |
| Consumers Oil                        | Trenton, NJ          | —                                      | —          |
| Convenient Food Mart                 | Rosemont, IL         | Convenient Food Mart                   | 1,450      |
| Crown Central Petroleum Corp.        | Baltimore, MD        | Fast Fare/Zippy Mart                   | 532        |
| Crystal Flash Petroleum Corp.        | Indianapolis, IN     | CF Deli Bake                           | N/A        |
| Cumberland Farms                     | Canton, MA           | Cumberland Farms                       | 1,200      |
| Curt's Oil Co., Inc.                 | Muskogee, OK         | Curt's                                 | —          |
| Dairy Mart, Convenience Stores, Inc. | Enfield, CT          | Dairy Mart Convenience Store           | —          |
| DeBiols Oil Co.                      | Providence, RI       | D B Mart                               | 7          |
| Delta Group, USA Inc.                | Mt. Pleasant, MI     | Next Door Food Stores                  | —          |
| Diamond Shamrock R & M Co.           | San Antonio, TX      | Diamond Shamrock Corner Store          | 529        |
| Dickey Inc.                          | Packwood, IA         | Dickey Prairie Home                    | —          |
| Drakes Refinery Stations             | Lansing, MI          | Drakes Market Plus                     | 62         |
| Emro Marketing Co.                   | Springfield, OH      | Speedway                               | 175        |
| Englefield Oil Co.                   | Newark, OH           | Duchess Shoppe                         | 42         |
| Exxon Company, U.S.A.                | Houston, TX          | Exxon Shop                             | 375        |
| Farm & Home Oil Co.                  | Telford, PA          | Farm & Home Corner Store               | 8          |
| FKG Oil Co.                          | Belleville, IL       | Motomart                               | 33         |
| Flying J Inc.                        | Brigham City, UT     | Flying J                               | 31         |
| Foster Oil Co.                       | Richmond, MI         | Sunrise Convenience Stores             | N/C        |
| Four Star Service Stations, Inc.     | Grand Rapids, MI     | Four Star Service Stations & Stores    | 11         |
| H.N. Funkhouser & Co.                | Winchester, VA       | Handy Mart                             | 7          |
| Gasco Gasoline, Inc.                 | Oxnard, CA           | Gasco Mart                             | 10         |
| General Oil Co.                      | Batesville, AR       | Quick Mart                             | 35         |
| Getty Petroleum                      | Plainview, NY        | Getty Mart/Mr. Food/Hop-In/Pen Supreme | 300        |
| Giant Industries, Inc.               | Phoenix, AZ          | Giant Food Stores                      | 15         |
| Golub Corp.                          | Schenectady, NY      | Mini Chopper                           | 7          |
| Gresham Petroleum Co.                | Indianola, MS        | Double Quick                           | 24         |
| Harrie Oil Company                   | Portland, OR         | —                                      | —          |
| Hawaiian Independent Refinery, Inc.  | Honolulu, HI         | Express                                | —          |
| Angus I. Hines, Inc.                 | Suffolk, VA          | Sentry Food Marts                      | 28         |
| Barney Holland Oil Co.               | Ft. Worth, TX        | Jack B. Quick, Inc.                    | 3          |
| Horky Oil Co., Inc.                  | Lubbock, TX          | Friend's                               | N/A        |
| Huck's Convenience Stores            | Carmi, IL            | Huck's Food Store                      | 90         |
| Hudson Oil Company                   | Tulsa, OK            | Hudson                                 | 11         |
| Hughes Energy, Inc.                  | Daytona Beach, FL    | Sugarcreek                             | 12         |
| Hull Oil Co.                         | Panama City, FL      | Jr. Food Mart (franchise) Hull         | 4          |
| Huntley Jiffy, Inc.                  | Orange Park, FL      | Huntley-Jiffy Stores, Inc.             | 323        |
| J&L Oil, Inc.                        | Vernon Hills, IL     | J&L Food Mart                          | 26         |
| Jacobus Petroleum Products, Inc.     | Milwaukee, WI        | Jiffy Stop                             | —          |
| Johnson Oil                          | Columbus, IN         | Bigfoot                                | —          |
| Kerr-McGee Refining Corp.            | Houston, TX          | Kerr-McGee Food Shop                   | —          |
| Kimber Petroleum Corp.               | Madison, NJ          | Quick Pik                              | N/A        |
| Kocolene Oil Corp.                   | Seymour, IN          | Kocolene Fuel/Food Marts               | —          |
| Krause Gentle Corp.                  | West Des Moines, IA  | Kum & Go                               | N/A        |
| Kunz Oil Co.                         | Edina, MN            | Peoples Plus                           | 15         |
| Kwik Shop, Inc.                      | Hutchinson, KS       | Kwik Shop, Inc.                        | N/A        |
| H.C. Lewis Oil Co.                   | Welch, WV            | Kwik Serv Food Marts                   | N/A        |

\*Diesel. \*\*Only those directly owned & operated by UNOCAL. \*\*\* Does not include UNOVEN stores. N/A—Precise figures not disclosed by company.

# Convenience Store Summary

| 1989<br>Total | 1990<br>Mid-Year | 1990<br>Projected | Additions<br>Projected<br>In 1991 | Average Gasoline Volume<br>Per Store/Per Month |         | Size Sq. Ft. |             |
|---------------|------------------|-------------------|-----------------------------------|------------------------------------------------|---------|--------------|-------------|
|               |                  |                   |                                   | Mini                                           | Full    | Mini         | Full        |
| 50            | 90               | ?                 | ?                                 | N/A                                            | N/A     | N/A          |             |
| 157           | 144              | 154               | 10                                | 74,298                                         | 99,880  | 800          | 1,500       |
| 1,200         | 1,308            | —                 | —                                 | —                                              | —       | 800          | 1,600       |
| 13            | 11               | 11                | 12                                | —                                              | 60,000  | —            | 2,400/3,000 |
| 720           | 731              | N/A               | N/A                               | N/A                                            | N/A     | —            | 2,500       |
| 595           | 600              | —                 | —                                 | —                                              | —       | —            | 3,400/4,400 |
| 36            | 31               | 33                | 3                                 | 115,000                                        | 80,000  | 800/900      | 1,800       |
| —             | 5                | 7                 | 1                                 | 30,000                                         | 50,000  | —            | —           |
| 40            | 43               | 46                | 3                                 | —                                              | —       | 400          | 2,800       |
| 14            | 15               | ?                 | ?                                 | 100,000                                        | 100,000 | —            | —           |
| 700           | 719              | 803               | 113                               | 145,000                                        | 110,000 | 1,000        | 1,500       |
| 10            | 10               | 11                | ?                                 | 60,000                                         | 75,000  | 900          | 2,000/2,800 |
| 45            | 45               | 48                | 3                                 | 75,000                                         | 80,000  | —            | 2,300/3,300 |
| 17            | 17               | 19                | 1                                 | —                                              | 85,000  | —            | 1,500/2,000 |
| 732           | 771              | 790               | ?                                 | —                                              | —       | —            | 2,500       |
| —             | 4                | 6                 | 1                                 | —                                              | 125,000 | —            | —           |
| 225           | 262              | 270               | 35                                | 40,000                                         | 55,000  | 800/1,500    | 1,600/2,400 |
| 4             | 4                | 4                 | ?                                 | —                                              | —       | —            | —           |
| 16            | 20               | ?                 | ?                                 | —                                              | —       | 900          | 2,000       |
| 53            | 70               | 72                | 2                                 | 50,000                                         | 50,000  | —            | 2,400       |
| 3,936         | 3,800            | ?                 | ?                                 | N/A                                            | N/A     | 350          | 1,200       |
| 4,658         | 4,664            | ?                 | ?                                 | 100,000                                        | 42,000  | —            | 2,600       |
| 15            | 16               | N/A               | N/A                               | 125,000                                        | 175,000 | 900          | 1,800       |
| 850           | 850              | N/A               | —                                 | 54,276                                         | 49,898  | —            | 2,000       |
| —             | 15               | —                 | —                                 | 50,000                                         | 25,000  | —            | —           |
| —             | 7                | 7                 | 0                                 | 85,000                                         | 150,000 | —            | —           |
| 477           | 500              | ?                 | ?                                 | 120,000                                        | 120,000 | 400          | 1,200/1,600 |
| —             | 7                | 9                 | 2                                 | —                                              | 40,000  | —            | —           |
| —             | 43               | ?                 | ?                                 | 45,000                                         | —       | —            | —           |
| —             | 2                | 4                 | 2                                 | 80,000                                         | —       | —            | —           |
| 580           | 571              | —                 | —                                 | —                                              | —       | 500          | 3,000       |
| 24            | 25               | —                 | —                                 | 50,000                                         | 90,000  | —            | 2,400       |
| 1,075         | 1,100            | 1,100             | —                                 | —                                              | —       | —            | N/A         |
| —             | 13               | 17                | ?                                 | 125,000                                        | —       | —            | 2,000/3,000 |
| —             | 1,250            | 1,400             | 150                               | —                                              | 35,000  | —            | —           |
| 11            | 16               | 19                | 4                                 | —                                              | 65,000  | —            | 2,200       |
| —             | 42               | —                 | —                                 | —                                              | —       | —            | —           |
| 617           | 654              | 694               | 44                                | 75,001                                         | 91,641  | —            | 1,200       |
| 2             | 2                | 2                 | 0                                 | —                                              | 60,000  | —            | —           |
| 13            | 18               | 23                | 3                                 | 60,000                                         | 60,000  | 800          | —           |
| 1,600         | 1,665            | 1,720             | 55                                | 103,823                                        | 144,941 | —            | 3,375       |
| 53            | 51               | 61                | 10                                | —                                              | 84,000  | —            | 1,500/2,000 |
| 450           | 562              | N/A               | N/A                               | N/A                                            | N/A     | —            | 1,100       |
| 8             | 4                | 6                 | 2                                 | 100,000                                        | 120,000 | —            | 1,200       |
| 38            | 40               | 44                | 4                                 | —                                              | 110,000 | 400          | 2,200/2,700 |
| 35            | 35               | 36                | ?                                 | —                                              | 95,000  | —            | 2,400       |
| 13            | 15               | 17                | —                                 | 80,000                                         | 150,000 | —            | —           |
| 11            | 10               | 10                | 0                                 | 70,000                                         | 350,000 | 1,000        | —           |
| 8             | 9                | 10                | 1                                 | —                                              | 100,000 | —            | 2,200/2,400 |
| 10            | 10               | 13                | ?                                 | 100,000                                        | 150,000 | —            | —           |
| 33            | 28               | 29                | 2                                 | —                                              | 50,000  | —            | 1,400/3,000 |
| 435           | 578              | 634               | 60                                | —                                              | —       | 600/1,000    | 2,000       |
| 21            | 27               | 42                | 15                                | 150,000                                        | 150,000 | —            | 2,000       |
| 7             | 7                | N/A               | N/A                               | 32,000                                         | —       | —            | —           |
| 26            | 28               | —                 | —                                 | —                                              | —       | —            | 2,400       |
| —             | 5                | 6                 | 1                                 | 110,000                                        | 100,000 | —            | —           |
| 7             | 7                | 11                | 4                                 | —                                              | —       | —            | —           |
| 30            | 32               | 32                | 2                                 | —                                              | 55,000  | —            | 1,700       |
| 5             | 5                | 5                 | ?                                 | —                                              | 50,000  | —            | 1,500/2,000 |
| 20            | 20               | 21                | 2                                 | 90,000                                         | 80,000  | —            | —           |
| 95            | 100              | 105               | 7                                 | —                                              | —       | —            | —           |
| 11            | 11               | 11                | ?                                 | —                                              | —       | 400/1,000    | —           |
| 14            | —                | —                 | —                                 | —                                              | —       | —            | —           |
| 5             | 5                | 6                 | 4                                 | 75,000                                         | 50,000  | 1,000        | 2,400       |
| 330           | 369              | ?                 | ?                                 | —                                              | 50,000  | —            | —           |
| 31            | 24               | 29                | 6                                 | 70,000                                         | 100,000 | —            | 2,000       |
| 12            | 13               | 14                | 1                                 | 60,000                                         | 70,000  | —            | —           |
| —             | 50               | —                 | —                                 | —                                              | —       | —            | —           |
| —             | 43               | ?                 | ?                                 | —                                              | —       | —            | —           |
| —             | 3                | 6                 | ?                                 | 150,000                                        | 150,000 | —            | —           |
| —             | 20               | —                 | —                                 | —                                              | —       | —            | —           |
| 137           | 137              | 149               | 15                                | —                                              | 36,000  | —            | —           |
| 15            | 1                | 0                 | 0                                 | —                                              | —       | 1,000        | 2,700/4,500 |
| 210           | 210              | 211               | 3                                 | —                                              | 45,000  | —            | —           |
| 4             | 4                | 5                 | 1                                 | —                                              | 50,000  | —            | —           |

N/C—No change. ?—Plan to add C-stores, but exact number unknown.

## (Convenience Store Summary Continued)

| Company                                       | HQ Location        | C-Store Name                                    | 1988 Total |
|-----------------------------------------------|--------------------|-------------------------------------------------|------------|
| The LYDEN Co.                                 | Youngstown, OH     | Fast Chek Food Marts, Inc.                      | 45         |
| Mapco Petroleum, Inc.                         | Tulsa, OK          | Delta Express                                   | 265        |
| Martin Oil Marketing, Ltd.                    | Alsip, IL          | Martin Mini Marts                               | 41         |
| McDowell Oil Service, Inc. Time Markets, Inc. | Milton, PA         | Time Markets, Inc.                              | 28         |
| McLeaser Oil Service, Inc.                    | Kalamazoo, MI      | Food Port Marketing                             | 2          |
| Mid-Continental Systems, Inc.                 | West Memphis, AR   | CMI                                             | —          |
| Mid-Missouri Oil Co. dba Jiffy Stop           | Kaiser, MO         | Jiffy Stop                                      | 7          |
| Mid-States Petroleum                          | Troy, MI           | Mid-Mart                                        | 18         |
| Miller Enterprises, Inc.                      |                    |                                                 |            |
| dba Handy Way Food Stores                     | Crescent City, FL  | Handy Way Food Stores                           | 141        |
| Miller Oil, Co.                               | Norfolk, VA        | Miller Mart                                     | N/A        |
| Mini Mart, Inc.                               | Casper, WY         | Mini Mart, Inc.                                 | 116        |
| Missouri Terminal Oil Co.                     | St. Louis, MO      | Midco                                           | —          |
| Mobil Oil Corp.                               | New York, NY       | Mobil Mart                                      | 800        |
| Munro Petroleum & Terminal Corp.              | Biloxi, MS         | MP Food Stores                                  | N/A        |
| Murphy Oil USA, Inc.                          | El Dorado, AR      | SPUR                                            | —          |
| Musket Corp.                                  | Oklahoma City, OK  | Love's Country Stores/Love's Travel Stop        | 100        |
| National Convenience Store                    | Houston, TX        | Stop N Go                                       | 1,200      |
| National Oil & Gas Inc.                       | Bluffton, IN       | (various)                                       | 24         |
| Neal, Inc.                                    | San Antonio, TX    | One Stop Food Stores                            | 30         |
| Nella Oil Co.                                 | Auburn, CA         | 1 Stop Convenience Food Stores                  | 21         |
| Pacific Northern Oil Co.                      | Seattle, WA        | Panoco                                          | —          |
| Pal Oil Company, Inc.                         | Palmyra, NY        | Palmart                                         | 6          |
| Parker Oil Co., Inc.                          | South Hill, VA     | —                                               | —          |
| Patterson Oil Co., Inc.                       | Torrington, CT     | PATCO Handy Shop                                | 6          |
| PDQ Food Stores, Inc.                         | Madison, WI        | PDQ Food Stores, Inc.                           | N/A        |
| Petroleum Marketers, Inc.                     | Roanoke, VA        | Stop In Food Stores, Inc.                       | —          |
| Petrotex Marketing, Inc.                      | Midland, TX        | Friends Convenience Stores                      | 18         |
| Phillips 66 Co.                               | Bartlesville, OK   | Phillips 66                                     | 136        |
| Piasa Motor Fuels, Inc.                       | Alton, IL          | Piasa Pantry                                    | 6          |
| Pilot Oil Corp.                               | Knoxville, TN      | Pilot Foodmarts                                 | 115        |
| Pride Oil Co. Inc.                            | Columbus, MS       | Pride Pantry                                    | N/A        |
| Pride of Texas Dist. Co.                      | Arlington, TX      | One Stop/Sack N' Sack/Pride Foods               | 21         |
| Private Brand Services, Inc.                  | Cadillac, MI       | P.B.S. Party Store                              | 1          |
| Promana, Inc.                                 | Honolulu, HI       | Express Mart                                    | —          |
| Purity Oil Co.                                | Tulsa, OK          | Fastop Stores                                   | —          |
| Quality Oil Co. I, Ltd. Partnership           | Winston-Salem, NC  | Quality Mart                                    | 24         |
| Quicktrip Corp.                               | Tulsa, OK          | Quick Trip                                      | 252        |
| Racetrac Petroleum, Inc.                      | Atlanta, GA        | Racetrac Petroleum Inc./Multi Store             | N/A        |
| Red Hed Oil Co. Inc.                          | Richmond, KY       | Redi-Mart                                       | N/A        |
| Republic Oil Corp.                            | Woodland Hills, CA | Dixie Mart                                      | 1          |
| River Oil Company                             | Memphis, TN        | (various)                                       | 2          |
| Robinson Oil Co. Inc.                         | San Jose, CA       | Mrs. Robbie's Foodstore/Mrs. Robbie's Snackspot | 7          |
| Royster Oil Co. Inc.                          | Shelby, NC         | RoCo Food Stores                                | 19         |
| Russell Petroleum Corp.                       | Montgomery, AL     | QuickShop Food Stores                           | 15         |
| Sahara Oil Co. Inc.                           | Phoenix, AZ        | Rebel Quick Mart                                | N/A        |
| Save-X, USA Inc.                              | Roanoke, VA        | Save-X Mini Mart                                | —          |
| SCASCO                                        | Winsted, CT        | (various)                                       | N/A        |
| Schaeffer Oil Inc.                            | Winnier, SD        | "Lil Feller"                                    | 3          |
| Shay Oil Co. Inc.                             | Yuma, AZ           | Shay's Mart                                     | N/A        |
| Shell Oil Company                             | Houston, TX        | Shell Food Mart                                 | 1,100      |
| SICO Co.                                      | Mount Joy, PA      | Sicoserve                                       | 7          |
| Sing Oil Co.                                  | Thomasville, GA    | Sing Food Stores                                | 52         |
| Smith-Shafer Oil Co.                          | Rockford, IL       | —                                               | —          |
| Sugarcreek Corp.                              | Rochester, NY      | Sugarcreek Stores                               | N/A        |
| Sun Refining & Marketing Co.                  | Philadelphia, PA   | Stop-N-Go                                       | 485        |
| Sunshine Jr. Stores, Inc.                     | Panama City, FL    | Sunshine-Jr. Food Stores                        | 309        |
| Taylor Oil Co.                                | Winston-Salem, NC  | Etna Food Stores                                | 56         |
| Texaco, Inc.                                  | Houston, TX        | Food Mart                                       | 900        |
| Thornhill Oil Co., Inc.                       | Fort Wayne, IN     | Amoco Food Shops                                | 11         |
| Thornton Oil Corp.                            | Louisville, KY     | Thornton Gas & Food Mart                        | N/A        |
| Time Saver Stores, Inc.                       | New Orleans, LA    | Time Saver Stores, Inc.                         | 139        |
| Tooley Oil Co.                                | Sacramento, CA     | Shell Food Marts/Tooley's Mart                  | 7          |
| Total Petroleum, Inc.                         | Denver, CO         | Total Mart/V Mart/Road Runner/A Mart            | 470        |
| Transit Oil Co.                               | Louisville, KY     | Transit Mart                                    | 7          |
| Ultra Power Corp.                             | Monticello, NY     | Ultra Mart                                      | 4          |
| Ultramar, Inc.                                | Hanford, CA        | Ultramar                                        | 120        |
| United Refining Co.                           | Warren, PA         | Quick Fill/Red Apple Food Mart                  | 110        |
| UNOCAL Corp. **                               | Los Angeles, CA    | Self Serv Marts                                 | 2,500      |
| Vista Marketing Group, Ltd.                   | Rockford, IL       | Vista                                           | 4          |
| Wake Up Oil Co., Inc.                         | Indianapolis, IN   | Mini Snack Shop                                 | 5          |
| Warelubco, Inc.                               | Jacksonville, IL   | Wareco Country Stores                           | N/A        |
| Warren Equities, Inc.                         | New York, NY       | Xtra Mart                                       | 87         |
| Weish Oil, Inc.                               | Merrillville, IN   | (various names)                                 | 27         |
| Western Marketing, Inc.                       | Abilene, TX        | Wes-T-Go, Inc.                                  | N/A        |
| Westgate Oil Co.                              | Muskegon, MI       | WESCO/Good Neighbor Convenience                 | 28         |
| A.T. Williams Oil Co.                         | Winston-Salem, NC  | Wilco Food Marts                                | 83         |
| J.H. Williams Oil Co., Inc.                   | Tampa, FL          | 76 Mini Marts, Inc.                             | 6          |
| The Willie Group, Inc.                        | La Plata, MD       | Dash In Food Stores, Inc.                       | 32         |
| Wooten Oil Company                            | Goldsboro, NC      | Kwik Mart                                       | N/A        |
| York Oil Co. Inc.                             | Hampton, VA        | Easy-Go Stores                                  | N/A        |

\*Diesel. \*\*Only those directly owned & operated by UNOCAL. \*\*\* Does not include UNOVEN stores. N/A—Precise figures not disclosed by company.



| 1989<br>Total | 1990<br>Mid-Year | 1990<br>Projected | Additions<br>Projected<br>in 1991 | Average Gasoline Volume<br>Per Store/Per Month |         | Size Sq. Ft. |             |
|---------------|------------------|-------------------|-----------------------------------|------------------------------------------------|---------|--------------|-------------|
|               |                  |                   |                                   | Mini                                           | Full    | Mini         | Full        |
| 54            | 70               | 75                | 7                                 | 45,000                                         | 75,000  |              | 1,400       |
| 310           | 339              | ?                 | ?                                 |                                                |         |              | 1,800       |
| 41            | 43               | ?                 | ?                                 | —                                              | —       | 140,000      | 2,000       |
| 2,830         | 30               | 30                | 0                                 | —                                              | 70,000  |              | 2,500       |
| 2             | 2                | 4                 | 2                                 | —                                              | 40,000  |              | 2,000/3,500 |
| 32            | 27               | 27                | 0                                 | —                                              | 20,000  |              |             |
| 8             | 12               | ?                 | ?                                 | —                                              | 60,000  |              | 1,200       |
| 32            | 32               | 38                | 11                                | 130,000                                        | 130,000 | 800          | 2,500       |
| 141           | 143              | 151               | 8                                 | —                                              | —       |              | 2,400       |
| 21            | 35               | 39                | 6                                 | —                                              | —       |              | N/A         |
| 117           | 117              | 119               | 122                               | —                                              | 45,000  |              | 2,400       |
|               | 24               | 29                | ?                                 | 87,000                                         | 34,000  |              |             |
| N/A           | N/A              | N/A               | N/A                               | N/A                                            | N/A     | 600          | N/A         |
| 41            | 34               | ?                 | ?                                 |                                                |         | 1,000        | 1,200/1,400 |
|               | 173              | 190               | —                                 |                                                |         |              |             |
| 119           | 123              | 132               | 11                                |                                                |         |              | 1,800/4,000 |
| 1,099         | 1,099            | 1,102             | N/A                               | —                                              | N/A     |              | 2,400/3,090 |
| 28            | 28               | 33                | 5                                 | 40,000                                         | 80,000  |              |             |
| 25            | 25               | —                 | —                                 | —                                              | 40,000  | 500          | 3,500       |
| 27            | 27               | 30                | —                                 | —                                              | 150,000 |              | 2,400       |
| 2             | 2                | 3                 | ?                                 | —                                              | 100,000 |              |             |
|               | 9                | 12                | 3                                 | 96,000                                         | 60,000  | 1,000        | 2,200       |
| 30            | 30               | 33                | 3                                 | —                                              | 60,000  |              |             |
| 8             | 8                | 10                | 2                                 | 85,000                                         | 105,000 |              | N/A         |
| 105           | 99               | 111               | 12                                | —                                              | —       |              | N/A         |
| 54            | 54               | 58                | 4                                 | 80,000                                         | 70,000  | 1,000        | 1,800       |
| 20            | 20               | 23                | 3                                 | N/A                                            | N/A     |              |             |
| 159           | 190              | ?                 | ?                                 | —                                              | —       | 800          |             |
| 9             | 9                | 11                | 2                                 | 60,000                                         | 50,000  |              |             |
| 72            | 52               | ?                 | ?                                 | —                                              | —       |              | 2,200/2,500 |
| 7             | 7                | 8                 | 9                                 | —                                              | 35,000  |              |             |
| 27            |                  |                   |                                   |                                                |         | 900          | 2,600       |
| 1             | 1                | 1                 | 0                                 |                                                | 120,000 |              |             |
| 10            | 10               | ?                 | ?                                 |                                                | 120,000 |              |             |
| 14            | 14               | 17                | 4                                 | 80,000                                         | 100,000 |              |             |
|               |                  |                   |                                   |                                                |         | 200          | 2,200       |
| 255           | 279              | 309               | ?                                 | —                                              | —       |              | 3,200       |
| 268           | 168              | ?                 | ?                                 |                                                |         |              |             |
| 8             | 6                | 8                 | ?                                 | 60,000                                         | 50,000  |              |             |
| 4             | 4                | 1                 | ?                                 | 200,000*                                       |         |              |             |
| 3             | 3                | 3                 | 1                                 |                                                |         |              | 1,500       |
| 77            | 7                | 10                | 3                                 |                                                |         |              |             |
| 19            | 19               | 21                | 2                                 | 30,000                                         | 30,000  |              | 2,400       |
| 17            | 19               | 22                | 4                                 | —                                              | —       | 1,400        | 3,000       |
| 6             | 6                | 8                 | 2                                 | —                                              | 100,000 |              |             |
| 10            | 10               | 11                | 2                                 | 55,000                                         | 27,000  |              |             |
| 10            | 10               | 10                | ?                                 | 50,000                                         | 65,000  |              |             |
| 6             | 6                | 6                 | 0                                 | —                                              | 40,000  |              | 2,500       |
| 13            | 20               | 22                | 2                                 | 100,000                                        | 100,000 |              |             |
| 1,164         | N/A              | N/A               | N/A                               | N/A                                            | N/A     | 800          | 1,000/2,600 |
| 10            | 10               | 13                | 3                                 | 92,500                                         | 125,000 |              |             |
| 55            | 55               | —                 | —                                 | —                                              | —       | 1,000        | 2,700       |
| 5             | 5                | 6                 | 3                                 | 125,000                                        | —       |              |             |
| 100           | 100              | 110               | 10                                | 70,000                                         | 70,000  | N/A          | 2,000/2,500 |
| 620           | 742              | N/A               | N/A                               | —                                              | —       | 300          | 2,000/2,400 |
| 315           | 308              | 333               | 25                                | —                                              | 27,000  |              | 1,800/3,000 |
| 55            | 55               | 57                | 2                                 | 114,000                                        | 114,000 | 900          | 2,400       |
| 1,705         | 1,150            | 1,319             | 75                                | 145,000                                        | 155,000 | 1,000        | 1,800       |
| 22            | 23               | 25                | 3                                 | 90,000                                         | 100,000 |              | 1,000       |
| 75            | 79               | 89                | ?                                 | —                                              | —       |              |             |
| 139           | 136              | —                 | —                                 | —                                              | 30,000  |              | 3,200       |
| 8             | 7                | 8                 | ?                                 | 175,000                                        | 240,000 | 200/800      |             |
| 535           | 604              | 619               | 12                                | 140,000                                        | 140,000 | 800          | 1,500       |
| 15            | 15               | 15                | 0                                 | —                                              | —       | 800          |             |
| 4             | 3                | 5                 | 2                                 | 15                                             | —       |              | 1,500       |
| 114           | 150              | —                 | —                                 | —                                              | —       | 600          | 1,600       |
| 110           | 351              | ?                 | ?                                 |                                                |         | 700          | 1,500       |
| 2,500         | 1,924**          | ?                 | ?                                 | N/A                                            | N/A     | 500/1,000    | 2,200       |
| 6             | 6                | 8                 | 2                                 | 100,000                                        | 175,000 |              |             |
| 5             | 7                | 9                 | ?                                 | 100,000                                        | 75,000  | 280          | 2,500       |
| 72            | 63               | 73                | 12                                | —                                              | —       | 900          | 2,400/2,600 |
| 101           | 101              | 110               | 7                                 | 91,000                                         | 66,000  | 1,000        | 1,500       |
| 28            | 28               | ?                 | ?                                 |                                                |         |              | 2,400       |
| 11            | 12               | 12                | 1                                 | —                                              | 65,000  |              |             |
| 28            | 28               | 28                | ?                                 | 125,000                                        | 125,000 | 1,000        | 2,000       |
| 88            | 91               | ?                 | ?                                 | —                                              | 100,000 | 800          | 2,400       |
| 6             | 6                | 8                 | 4                                 | 100,000                                        | 150,000 |              | 1,400       |
| 32            | 36               | 43                | ?                                 | 125,000                                        | 110,000 |              | 2,400       |
| 23            | 23               | 25                | 2                                 | 50,000                                         | 70,000  |              |             |
| 10            | 10               | 10                | 0                                 | 88,000                                         | 75,000  |              |             |

N/C—No change. ?—Plan to add C-stores, but exact number unknown.

## Shell Retains Title as No. 1 'Gas' Marketer for Fifth Straight Year

For the fifth straight year, Shell Oil has retained its title as the nation's No. 1 marketer of gasoline.

Its 1990 gallonage increase was minimal, just about 0.5%. But that was infinitely better than the 1989 gallonage which had abruptly declined 4.4%. And it was enough too to enlarge the gap ever so slightly between it and second-place Chevron.

It was also the third consecutive year that Shell stayed in the 10-billion gal.-plus stratosphere. No other company, except Chevron in the immediate wake of its acquisition of Gulf Oil in 1984, has ever attained 10-billion gal./yr. honors.

Texaco, recovering rapidly from the financial and restructuring of the mid-to-late 1980s, leapfrogged over Exxon to become the No. 3 marketer.

Texaco used to be ranked No. 1, but skidded badly during its bankruptcy and take-over threat traumas several years ago.

Amoco improved its ranking too, passing Mobil which suffered a 6% decline in gasoline sales in 1990.

Citgo had an almost spectacular increase in its gasoline gallonage, 23% in round figures. That was enough to enable it to pass its principal independent competitor, Marathon.

A fifteenth company was added to NPN's market shares table for 1990. This was Total Petroleum, the French-Canadian oil company based in Denver. Its market share, 1.5%, was just over NPN's minimum, 1% of the national market, for inclusion.

Gross gallonage of the top 15 was 94.7-billion gal. This was about 82%

of the national gallonage compared to 1989's total of 79.7%.

There were a number of "losers" in 1990, i.e., companies that lost ground compared with 1989 sales.

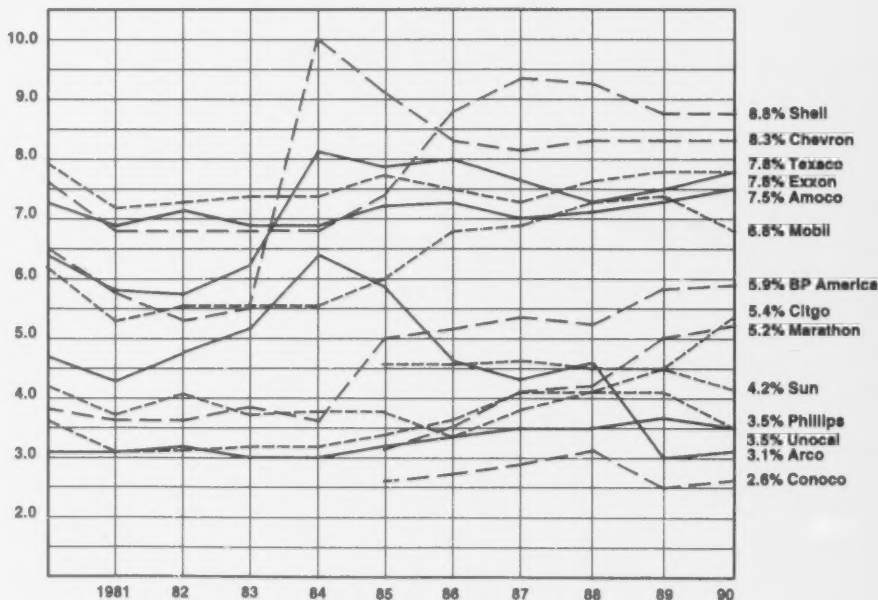
They were—Mobil, down 6%; Sun, 5.7%; Phillips, 5.4%; Unocal, 15.5% and Total Petroleum, 7.2%.

The national total was 0.8% higher than the 1989 total. This was somewhat surprising because it does not jibe with other national summaries which indicated a 1.0% to 1.5% decline in gasoline deliveries in 1990 vis a vis 1989.

Getty, Gulf, Southland, Circle K and Amerada Hess are somewhere around the 1-billion to 1.50-billion gal./year mark, but without official figures from any of them, it's difficult if not impossible to rank them, even if it's at

### TRENDS IN GASOLINE MARKET SHARES

14 Top Marketers 1980-1990



the tail end. Hess, for example, provides data on refined product sales, but will not break the gasoline numbers out.

Another thing to be remembered is that Shell, the leader, and five others in this year's share-of-market report are totally or partially owned by foreign oil companies, namely BP America, Citgo, Conoco, Total Petroleum and Texaco's Star Enterprise, a 50-50 proposition with Saudi Arabia.

### Chevron Continues as No. 1 Refined Products Marketer

Chevron, with a 1.4% increase in volumes, hung on to its leadership in refined product sales in 1990.

Chevron reported a 1990 average of 1,489,000 b/d, substantially better than second-place Shell, which checked in with 1,188,000 b/d.

Other billion-barrels per day oil companies were Exxon, 1,104,000 b/d and Amoco, 1,025,000 b/d.

Others in the top 10 were BP America, 925,000 b/d; Mobil, 903,000 b/d; Texaco, 858,000 b/d; Coastal, 780,000 b/d; Marathon, 689,000 b/d; and Sun, 641,000 b/d.

As it did in gasoline alone, Citgo had a shiny 22% increase in refined products sales. It jumped from 517,000 b/d to 633,000 b/d.

### 1990 Refined Product Sales (Add 000 b/d)

|            | 1990  | 1989  | % Chng. |
|------------|-------|-------|---------|
| Chevron    | 1,489 | 1,469 | 1.4%    |
| Shell      | 1,188 | 1,207 | 1.6     |
| Exxon      | 1,104 | 1,147 | (3.6)   |
| Amoco      | 1,025 | 1,001 | 2.4     |
| BP America | 925   | 898   | 3.0     |
| Mobil      | 903   | 939   | (3.8)   |
| Texaco     | 858   | 809   | 6.1     |
| Coastal    | 780   | 767   | 1.7     |
| Marathon   | 689   | 665   | 3.6     |
| Sun        | 641   | 655   | (2.1)   |
| Citgo      | 623   | 517   | 22.4    |
| Phillips   | 524   | 535   | (2.1)   |
| Conoco     | 490   | 451   | 8.6     |
| Arco       | 444   | 436   | 1.8     |
| Unocal     | 443   | 523   | (15.3)  |

### Gross Gasoline Gallonage and Relative Market Shares—1990 (a)

NPN projection for this table: 1990 gross gasoline sales equal 115.4-billion gal. (b)

| Company      | —Rank—<br>1990 | 1991 | % Share<br>of Market | Gross Gal. (c)<br>(Add 000) | % Chng.<br>vs. 1989 |
|--------------|----------------|------|----------------------|-----------------------------|---------------------|
| Shell        | 1              | 1    | 8.805%               | 10,163,790                  | 0.5%                |
| Chevron      | 2              | 2    | 8.368                | 9,565,920                   | 0.0                 |
| Texaco       | 3              | 4    | 7.783                | 8,983,380                   | 4.1                 |
| Exxon        | 4              | 3    | 7.770                | 8,968,050                   | 0.5                 |
| Amoco        | 5              | 6    | 7.530                | 8,692,110                   | 3.7                 |
| Mobil        | 6              | 5    | 6.842                | 7,986,930                   | (6.0)               |
| BP America   | 7              | 7    | 5.937                | 6,852,510                   | 3.5                 |
| Citgo        | 8              | 9    | 5.445                | 6,285,300                   | 22.8                |
| Marathon     | 9              | 8    | 5.233                | 6,040,020                   | 4.8                 |
| Sun          | 10             | 10   | 4.170                | 4,813,620                   | (5.7)               |
| Phillips     | 11             | 12   | 3.493                | 4,031,790                   | (5.4)               |
| Unocal       | 12             | 11   | 3.480                | 4,016,460                   | (15.5)              |
| Arco         | 13             | 13   | 3.068                | 3,541,230                   | 3.6                 |
| Conoco       | 14             | 14   | 2.616                | 3,020,010                   | 4.2                 |
| Total Petro. | 15             | 15   | 1.541                | 1,778,280                   | (7.2)               |
| <b>Total</b> |                |      | <b>82.1%</b>         | <b>94,739,400</b>           | <b>0.8%</b>         |

(a) Preliminary.

(b) Retail gasoline gallonage for 1990 was projected by NPN and based on FHA and API data. The gross gallonage statistics include some nonhighway consumption that cannot be separated out via federal and state compilations.

(c) Gross gasoline volumes as reported in annual reports, 10 Ks and internal summaries. Specifically excluded are companies such as Cumberland Farms/Gulf, Getty, Southland, Circle K, etc., which are privately owned or tightly held and do not issue annual reports.

### Gross Gasoline Gallons and Relative Market Shares—1989 (Revised)

FHA gasoline sales in 1989 totaled 115.6-billion gal.(b)

| Company      | —Rank—<br>1989 | 1988 | % Share<br>of Market | Gross Gal. (c)<br>(Add 000) | % Chng.<br>vs. 1988 |
|--------------|----------------|------|----------------------|-----------------------------|---------------------|
| Shell        | 1              | 1    | 8.756%               | 10,117,800                  | (4.4%)              |
| Chevron      | 2              | 2    | 8.278                | 9,565,520                   | 1.5                 |
| Exxon        | 3              | 3    | 7.721                | 8,922,060                   | 2.6                 |
| Texaco       | 4              | 4    | 7.469                | 8,630,790                   | 3.5                 |
| Mobil        | 5              | 5    | 7.349                | 8,492,820                   | 2.2                 |
| Amoco        | 6              | 6    | 7.257                | 8,385,510                   | 3.8                 |
| BP America   | 7              | 7    | 5.726                | 6,622,560                   | 11.7                |
| Marathon     | 8              | 9    | 4.988                | 5,764,080                   | 20.9                |
| Citgo        | 9              | 8    | 4.431                | 5,120,220                   | (1.2)               |
| Sun          | 10             | 11   | 4.418                | 5,104,890                   | 18.5                |
| Unocal       | 11             | 10   | 4.112                | 4,752,300                   | 2.0                 |
| Phillips     | 12             | 12   | 3.690                | 4,264,410                   | 0.7                 |
| Arco         | 13             | 14   | 2.958                | 3,418,590                   | 3.7                 |
| Conoco       | 14             | 13   | 2.507                | 2,897,370                   | 1.8                 |
| <b>Total</b> |                |      | <b>79.7%</b>         | <b>92,058,928</b>           | <b>3.8%</b>         |

N.B. Same footnotes as above apply here.

## Share of Market — 20 Companies in 1989 (a)

| Production            |               |             |                 |             |             |
|-----------------------|---------------|-------------|-----------------|-------------|-------------|
| Crude Oil and NGL (b) |               |             | Natural Gas     |             |             |
|                       | (Add 000 b/d) | % of Market |                 | Millions/CF | % of Market |
| BP America            | 784.0         | 8.50%       | Chevron         | 880,745     | 5.15%       |
| Exxon                 | 693.0         | 7.52        | Amoco           | 756,280     | 4.42        |
| Arco                  | 660.0         | 7.16        | Texaco          | 729,000     | 4.26        |
| Shell                 | 494.0         | 5.36        | Exxon           | 666,855     | 3.90        |
| Chevron               | 481.9         | 5.23        | Mobil           | 644,000     | 3.76        |
| Texaco                | 479.5         | 5.20        | Arco            | 558,085     | 3.26        |
| Amoco                 | 390.0         | 4.23        | Shell           | 532,535     | 3.11        |
| Mobil                 | 293.2         | 3.18        | USX/Marathon    | 533,245     | 1.95        |
| Phillips              | 254.0         | 2.76        | Phillips        | 319,010     | 1.86        |
| Unocal                | 165.0         | 1.79        | Unocal          | 277,035     | 1.62        |
| Oryx Energy           | 143.8         | 1.56        | DuPont          | 273,750     | 1.60        |
| USX/Marathon          | 143.5         | 1.56        | Oryx Energy     | 269,735     | 1.58        |
| Occidental            | 135.0         | 1.46        | Occidental      | 266,450     | 1.56        |
| DuPont                | 112.0         | 1.21        | Union Pacific   | 153,300     | 0.90        |
| Amerada Hess          | 71.0          | 0.77        | Cons. Natl. Gas | 147,000     | 0.86        |
| Union Pacific         | 63.8          | 0.69        | Anadarko        | 141,147     | 0.86        |
| City of Long Beach    | 53.9          | 0.58        | Mesa            | 137,167     | 0.80        |
| Enron                 | 53.3          | 0.58        | Pennzoil        | 134,781     | 0.79        |
| Sante Fe Pacific      | 50.7          | 0.55        | Enron           | 123,319     | 0.72        |
| Valero Enerav         | 43.7          | 0.47        | Amerada Hess    | 122,316     | 0.71        |

| Proved Resources      |                |             |                 |             |             |
|-----------------------|----------------|-------------|-----------------|-------------|-------------|
| Crude Oil and NGL (b) |                |             | Natural Gas     |             |             |
|                       | (Million/bbl.) | % of Market |                 | Billions/CF | % of Market |
| Shell                 | 2,861.0        | 8.35%       | Amoco           | 12,254      | 7.33%       |
| Arco                  | 2,765.0        | 8.07        | Exxon           | 9,365       | 5.60        |
| BP America            | 2,579.0        | 7.53        | Chevron         | 7,739       | 4.63        |
| Exxon                 | 2,487.0        | 7.26        | Mobil           | 7,347       | 4.40        |
| Chevron               | 1,763.0        | 5.14        | Arco            | 6,452       | 3.86        |
| Amoco                 | 1,686.0        | 4.92        | Shell           | 6,223       | 3.72        |
| Texaco                | 1,565.0        | 4.57        | Texaco          | 4,834       | 2.89        |
| Mobil                 | 1,202.0        | 3.51        | Unocal          | 4,130       | 2.47        |
| USX/Marathon          | 586.0          | 1.71        | Phillips        | 3,585       | 2.15        |
| Oryx Energy           | 571.0          | 1.67        | USX/Marathon    | 2,792       | 1.67        |
| Unocal                | 531.0          | 1.55        | Occidental      | 2,489       | 1.49        |
| DuPont                | 477.0          | 1.39        | DuPont          | 2,232       | 1.34        |
| Occidental            | 470.0          | 1.37        | BP America      | 2,171       | 1.30        |
| Phillips              | 459.0          | 1.34        | Oryx Energy     | 2,146       | 1.28        |
| Sante Fe Pacific      | 219.8          | 0.64        | Mesa            | 2,110       | 1.26        |
| Amerada Hess          | 203.0          | 0.59        | Anadarko        | 1,671       | 1.00        |
| Union Pacific         | 135.3          | 0.39        | Union Pacific   | 1,422       | 0.85        |
| Pennzoil              | 128.0          | 0.37        | Enron           | 1,312       | 0.78        |
| Mitchell Energy       | 88.5           | 0.26        | Enserch         | 1,230       | 0.74        |
| Mesa                  | 86.6           | 0.25        | Cons. Natl. Gas | 1,211       | 0.72        |

| Refining Capacity     |                                |                        |                       |                    |               |
|-----------------------|--------------------------------|------------------------|-----------------------|--------------------|---------------|
|                       | Operable Capacity<br>(000 b/d) | % of Total<br>Capacity | Runs (c)<br>(000 b/d) | % of<br>U.S. Total | %<br>Utilized |
| Chevron               | 1,621.0                        | 10.68%                 | 1,403.0               | 10.38%             | 86.6%         |
| Exxon                 | 1,147.0                        | 7.55                   | 999.0                 | 7.39               | 87.1          |
| Shell                 | 1,078.6                        | 7.10                   | 927.0                 | 6.86               | 85.9          |
| Amoco                 | 956.0                          | 6.30                   | 836.0                 | 6.63               | 93.7          |
| Mobil                 | 838.0                          | 5.52                   | 722.0                 | 5.34               | 86.1          |
| BP America            | 756.6                          | 4.98                   | 717.0                 | 5.30               | 94.8          |
| USX/Marathon          | 603.0                          | 3.97                   | 554.0                 | 4.10               | 91.9          |
| Texaco                | 595.0                          | 3.92                   | 619.0                 | 4.58               | 104.3         |
| Sun                   | 595.0                          | 3.92                   | 561.2                 | 4.15               | 94.3          |
| Arco                  | 559.0                          | 3.68                   | 531.1                 | 3.93               | 95.0          |
| DuPont                | 406.5                          | 2.68                   | 396.0                 | 2.93               | 97.4          |
| Ashland               | 346.5                          | 2.28                   | 318.1                 | 2.35               | 91.8          |
| Petroles de Venezuela | 344.5                          | 2.27                   | 274.3                 | 2.03               | 79.6          |
| Koch                  | 310.0                          | 2.04                   | N/A                   | N/A                | N/A           |
| Phillips              | 305.0                          | 2.01                   | 293.0                 | 2.17               | 96.1          |
| Coastal               | 302.8                          | 1.99                   | 262.4                 | 1.94               | 86.7          |
| Aramco                | 295.0                          | 1.94                   | 298.4                 | 2.21               | 101.1         |
| Solomon               | 277.1                          | 1.82                   | N/A                   | N/A                | N/A           |
| Total Petroleum       | 190.1                          | 1.25                   | 187.1                 | 1.38               | 98.4          |

(a) This report is updated biennially; hence, the 1990 data will not be available until 1992.

(b) Natural Gas Liquids and Condensates.

(c) Runs are not listed in the usual ranking order; they are keyed to operable capacities in column 1, hence some are not listed in the correct numerical positions.

Source: American Petroleum Institute, Discussion Paper #014R, published October 1990.



# Share of Market — Concentration Ratios

(% of U.S Total)

## Gasoline Sales

|          | 1989 | 1988 | 1987 | 1986 | 1985 | 1980 | 1970 |
|----------|------|------|------|------|------|------|------|
| 4 Firms  | 29.3 | 29.4 | 28.9 | 29.5 | 29.8 | 28.5 | 30.7 |
| 8 Firms  | 47.0 | 48.9 | 48.7 | 49.6 | 50.3 | 49.5 | 54.6 |
| 15 Firms | 64.7 | 65.9 | 65.0 | 66.4 | 67.7 | 66.3 | 74.9 |
| 20 Firms | 70.3 | 70.9 | 70.2 | 70.5 | 71.8 | 72.1 | 80.0 |
| 30 Firms | 76.6 | 76.8 | 76.4 | 76.6 | 77.2 | 77.9 | —    |

## Proved Reserves of Crude Oil and Liquids

|          | 1989 | 1988 | 1987 | 1986 | 1985 | 1980 | 1970 |
|----------|------|------|------|------|------|------|------|
| 4 Firms  | 31.2 | 31.3 | 31.6 | 29.7 | 29.3 | 31.1 | —    |
| 8 Firms  | 49.3 | 43.9 | 48.9 | 47.1 | 47.6 | 46.3 | —    |
| 15 Firms | 59.0 | 58.7 | 58.5 | 57.2 | 57.9 | 59.5 | —    |
| 20 Firms | 60.9 | 60.5 | 60.5 | 59.3 | 60.0 | 62.7 | —    |
| 30 Firms | 62.4 | 62.0 | 62.0 | 61.0 | 61.7 | 65.2 | —    |

## Production of Crude Oil and Liquids

|          | 1989 | 1988 | 1987 | 1986 | 1985 | 1980 | 1970 |
|----------|------|------|------|------|------|------|------|
| 4 Firms  | 28.5 | 28.7 | 28.3 | 26.6 | 26.1 | 25.3 | 26.3 |
| 8 Firms  | 46.4 | 46.3 | 46.1 | 44.6 | 43.5 | 40.8 | 41.7 |
| 15 Firms | 57.5 | 57.2 | 57.3 | 56.4 | 55.2 | 56.1 | 56.9 |
| 20 Firms | 60.4 | 60.2 | 60.6 | 59.7 | 58.4 | 60.6 | 61.1 |
| 30 Firms | 63.2 | 62.8 | 63.9 | 63.2 | 61.9 | 64.8 | —    |

## Refining Capacity

|          | 1989 | 1988 | 1987 | 1986 | 1985 | 1980 | 1970 |
|----------|------|------|------|------|------|------|------|
| 4 Firms  | 31.6 | 32.3 | 32.3 | 33.2 | 34.4 | 29.0 | 32.5 |
| 8 Firms  | 50.0 | 53.3 | 52.0 | 53.0 | 54.4 | 49.0 | 57.5 |
| 15 Firms | 68.9 | 72.8 | 70.5 | 71.6 | 73.0 | 67.0 | 78.1 |
| 20 Firms | 77.9 | 80.4 | 77.2 | 79.0 | 80.3 | 74.5 | 84.3 |
| 30 Firms | 88.2 | 89.0 | 86.3 | 87.9 | 88.8 | 82.3 | —    |

## Refinery Runs

|          | 1989 | 1988 | 1987 | 1986 | 1985 | 1980 | 1970 |
|----------|------|------|------|------|------|------|------|
| 4 Firms  | 31.3 | 31.7 | 32.6 | 33.2 | 33.9 | 31.2 | 34.2 |
| 8 Firms  | 50.6 | 53.5 | 54.0 | 55.3 | 57.3 | 53.9 | 61.0 |
| 15 Firms | 71.0 | 74.1 | 73.1 | 74.7 | 76.5 | 73.6 | 74.6 |
| 20 Firms | 78.9 | 80.7 | 79.2 | 80.9 | 82.5 | 81.5 | 91.1 |

Source: American Petroleum Institute, Market Shares and Individual Company Data for U.S. Energy Markets, 1950-1989, publishing October 1990.

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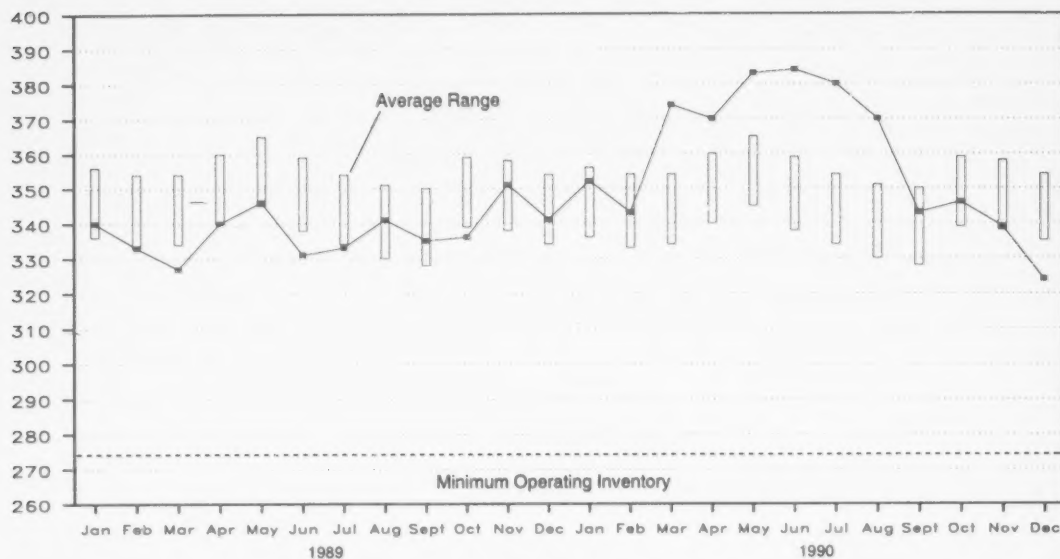
R.V. GUSTAFSON

DIRECTOR OF  
ENGINEERING AND SALES

MANUFACTURERS OF ELECTRONIC LIQUID-LEVEL AND BIN-LEVEL GAUGES,  
LEVEL ALARMS, LEVEL CONTROLS, AND LIQUID-LEAK DETECTORS.

**Stocks of Crude Oil, U.S. Total**

(Million of bbl.)

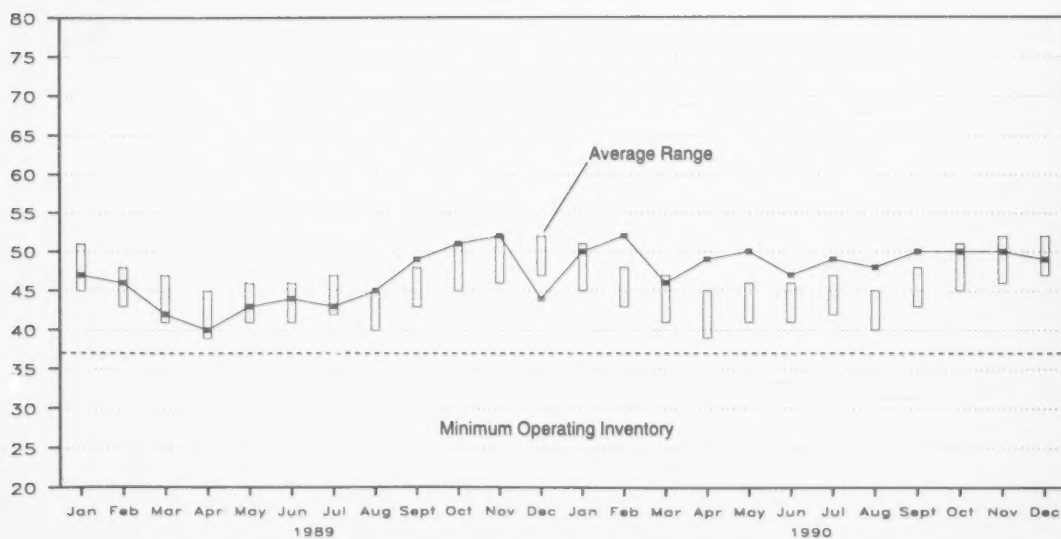


Crude Stocks at Primary Levels include those held at refineries, in pipelines and in lease tanks, but do not include those held in the Strategic Petroleum Reserve operated by the U.S. Government. The average level and width of average range are based on three years of monthly data. The seasonal pattern is based on seven years of monthly data. National Petroleum Council defines the Minimum Operating Inventory at the minimum level required for routine operation. By its definition, runouts and shortages could occur if inventory levels fall below that level for any extended period of time.

Source: Department of Energy, Weekly Statistical Reports.

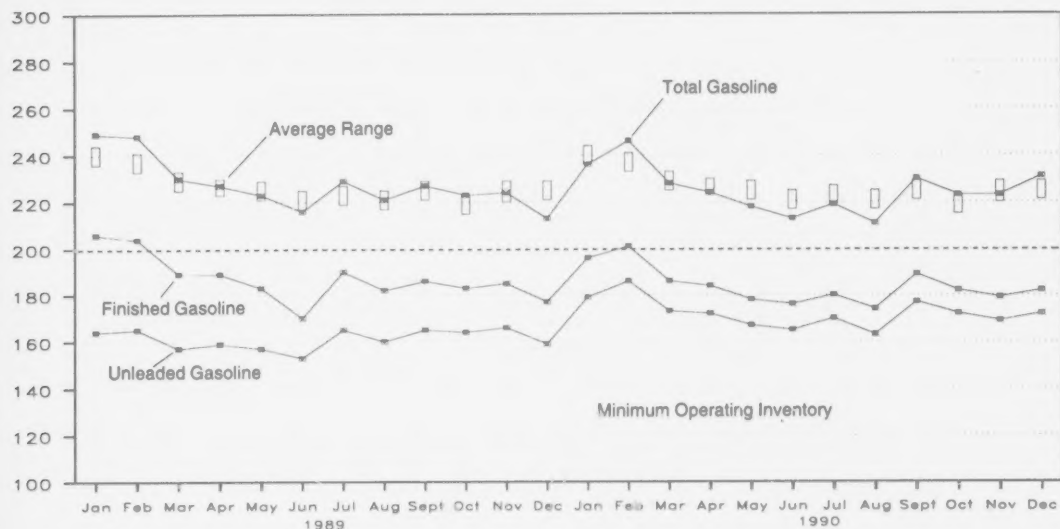
**Stocks of Residual Fuel Oil, U.S. Total**

(Millions of bbl.)



## Stocks of Motor Gasoline, U.S. Total

(Millions of bbl.)

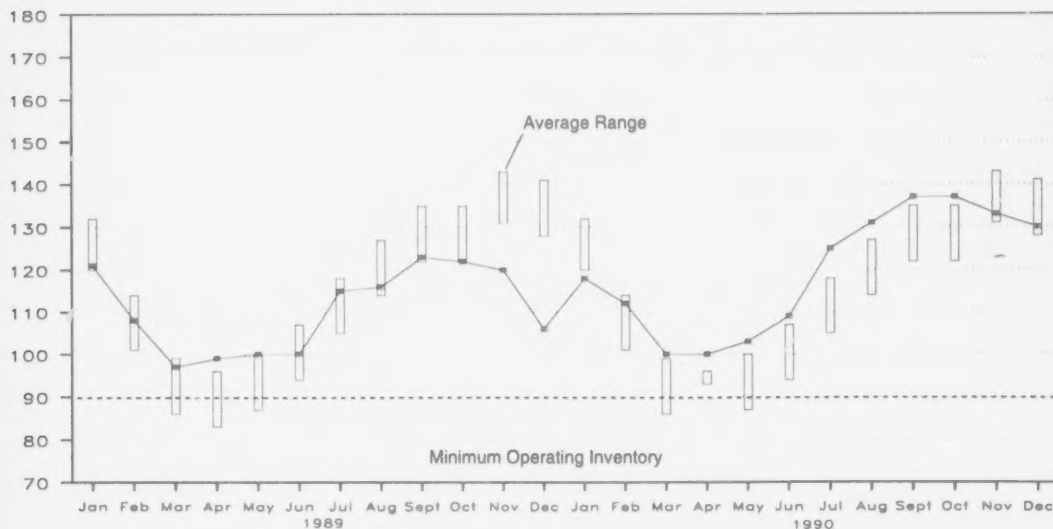


Product stocks at the Primary Level include those held at refineries, in pipelines and at major bulk terminals. They do not include stocks held in secondary distribution facilities such as jobber tanks, consumer tanks, and/or barges designed for consumer markets. The average level and width of average range are based on three years of monthly data. The seasonal pattern is based on seven years of monthly data. National Petroleum Council defines the Minimum Operating Inventory as the minimum level required for routine operation. By its definition, runouts and shortages could occur if inventory levels fall below that level for any extended period of time.

Source: Energy Information Administration, Weekly Statistical Reports.

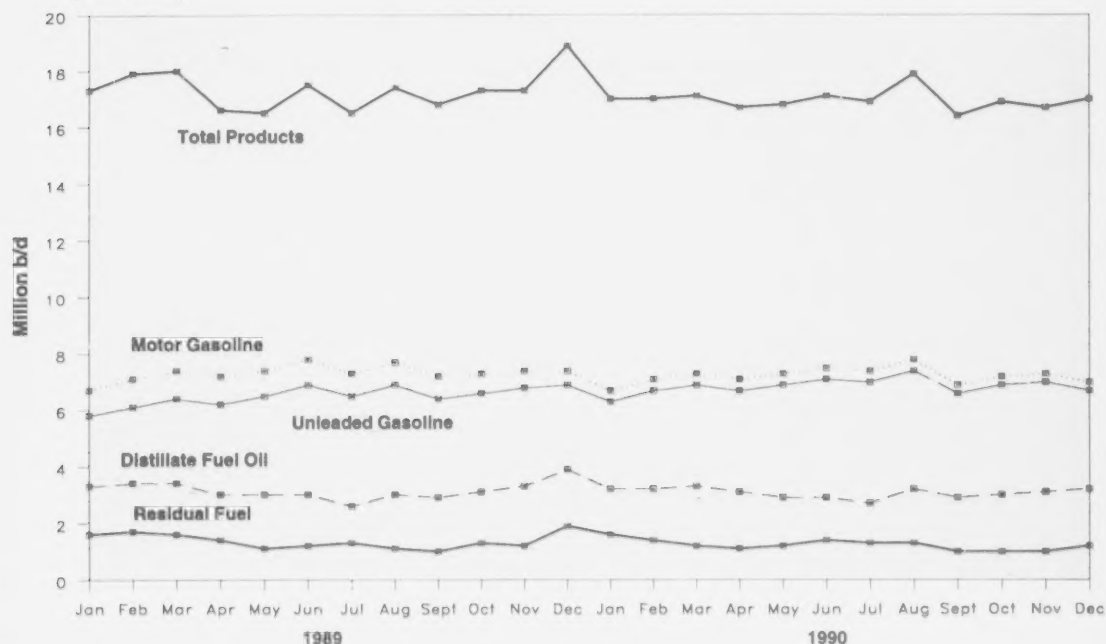
## Stocks of Distillate Fuel Oil, U.S. Total

(Millions of bbl.)



## Domestic Product Supply Trends

(Million b/d)



## Petroleum Products Supplied

(Millions of b/d)

| Year                    | Jan. | Feb. | Mar. | Apr. | May  | June | July | Aug. | Sept. | Oct. | Nov. | Dec. |
|-------------------------|------|------|------|------|------|------|------|------|-------|------|------|------|
| <b>1990</b>             |      |      |      |      |      |      |      |      |       |      |      |      |
| Finished Motor Gasoline | 6.7  | 7.1  | 7.3  | 7.1  | 7.3  | 7.5  | 7.4  | 7.8  | 6.9   | 7.2  | 7.3  | 7.0  |
| Leaded                  | 0.4  | 0.5  | 0.4  | 0.4  | 0.4  | 0.4  | 0.4  | 0.4  | 0.3   | 0.3  | 0.3  | 0.3  |
| Unleaded                | 6.3  | 6.7  | 6.9  | 6.7  | 6.9  | 7.1  | 7.0  | 7.4  | 6.6   | 6.9  | 7.0  | 6.7  |
| Jet Fuel                | 1.6  | 1.5  | 1.4  | 1.5  | 1.5  | 1.5  | 1.4  | 1.5  | 1.5   | 1.5  | 1.6  | 1.7  |
| Distillate Fuel Oil     | 3.2  | 3.2  | 3.3  | 3.1  | 2.9  | 2.9  | 2.7  | 3.2  | 2.9   | 3.0  | 3.1  | 3.2  |
| Residual Fuel Oil       | 1.6  | 1.4  | 1.2  | 1.1  | 1.2  | 1.4  | 1.3  | 1.3  | 1.0   | 1.0  | 1.0  | 1.2  |
| Other                   | 4.0  | 3.7  | 3.9  | 3.9  | 4.0  | 3.9  | 4.1  | 4.2  | 4.2   | 4.1  | 3.8  | 4.1  |
| Total                   | 17.0 | 17.0 | 17.1 | 16.7 | 16.8 | 17.1 | 16.9 | 17.9 | 16.4  | 16.9 | 16.7 | 17.0 |
| <b>1989</b>             |      |      |      |      |      |      |      |      |       |      |      |      |
| Finished Motor Gasoline | 6.7  | 7.1  | 7.4  | 7.2  | 7.4  | 7.8  | 7.3  | 7.7  | 7.2   | 7.3  | 7.4  | 7.4  |
| Leaded                  | 1.0  | 1.0  | 1.0  | 0.9  | 0.9  | 0.9  | 0.8  | 0.8  | 0.8   | 0.7  | 0.6  | 0.5  |
| Unleaded                | 5.8  | 6.1  | 6.4  | 6.2  | 6.5  | 6.9  | 6.5  | 6.9  | 6.4   | 6.6  | 6.8  | 6.9  |
| Jet Fuel                | 1.5  | 1.5  | 1.5  | 1.4  | 1.3  | 1.5  | 1.4  | 1.5  | 1.5   | 1.5  | 1.5  | 1.7  |
| Distillate Fuel Oil     | 3.3  | 3.4  | 3.4  | 3.0  | 3.0  | 3.0  | 2.6  | 3.0  | 2.9   | 3.1  | 3.3  | 3.9  |
| Residual Fuel Oil       | 1.6  | 1.7  | 1.6  | 1.4  | 1.1  | 1.2  | 1.3  | 1.1  | 1.0   | 1.3  | 1.2  | 1.9  |
| Other                   | 4.1  | 4.1  | 4.1  | 3.6  | 3.8  | 3.9  | 3.9  | 4.0  | 4.0   | 4.0  | 3.8  | 3.9  |
| Total                   | 17.3 | 17.9 | 18.0 | 16.6 | 16.5 | 17.5 | 16.5 | 17.4 | 16.8  | 17.3 | 17.7 | 18.9 |
| <b>1988</b>             |      |      |      |      |      |      |      |      |       |      |      |      |
| Finished Motor Gasoline | 6.7  | 7.0  | 7.3  | 7.4  | 7.3  | 7.8  | 7.5  | 7.6  | 7.4   | 7.3  | 7.4  | 7.3  |
| Leaded                  | 1.3  | 1.4  | 1.4  | 1.4  | 1.4  | 1.5  | 1.3  | 1.3  | 1.3   | 1.3  | 1.2  | 1.1  |
| Unleaded                | 5.4  | 5.6  | 5.9  | 6.0  | 5.9  | 6.3  | 6.1  | 6.2  | 6.1   | 6.0  | 6.2  | 6.2  |
| Jet Fuel                | 1.6  | 1.5  | 1.4  | 1.4  | 1.4  | 1.4  | 1.4  | 1.4  | 1.4   | 1.5  | 1.4  | 1.5  |
| Distillate Fuel Oil     | 3.6  | 3.6  | 3.5  | 2.9  | 2.8  | 2.9  | 2.6  | 2.9  | 2.8   | 3.2  | 3.2  | 3.6  |
| Residual Fuel Oil       | 1.7  | 1.7  | 1.5  | 1.3  | 0.9  | 1.1  | 1.2  | 1.3  | 1.2   | 1.3  | 1.5  | 1.8  |
| Other                   | 3.9  | 4.0  | 3.9  | 3.6  | 3.8  | 3.9  | 4.0  | 4.3  | 4.2   | 4.3  | 4.1  | 4.2  |
| Total                   | 17.4 | 17.8 | 17.6 | 16.6 | 16.2 | 17.1 | 16.7 | 17.5 | 17.1  | 17.6 | 17.6 | 18.4 |

Source: Energy Information Administration, Weekly Status Reports, 1990-1991.



## Stocks of Motor Gasoline

(Add 000,000 bbl.)

| Year                    | Jan.  | Feb.  | Mar.  | Apr.  | May   | June  | July  | Aug.  | Sept. | Oct.  | Nov.  | Dec.  |
|-------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| <b>1990</b>             |       |       |       |       |       |       |       |       |       |       |       |       |
| Finished Motor Gasoline | 195.6 | 201.3 | 186.1 | 184.5 | 178.4 | 175.8 | 180.4 | 173.5 | 188.7 | 182.2 | 178.5 | 182.2 |
| Leaded                  | 17.8  | 15.4  | 13.6  | 12.6  | 11.9  | 10.6  | 10.6  | 10.6  | 11.4  | 10.6  | 9.9   | 10.0  |
| Unleaded                | 177.8 | 185.9 | 172.5 | 171.9 | 166.5 | 165.3 | 169.8 | 163.0 | 177.3 | 171.6 | 168.6 | 172.2 |
| Blending Components     | 40.4  | 44.3  | 42.1  | 39.1  | 39.6  | 37.6  | 39.0  | 37.8  | 41.3  | 40.5  | 40.4  | 39.3  |
| Total Gasoline          | 236.0 | 245.7 | 228.2 | 223.6 | 218.0 | 213.4 | 219.4 | 211.3 | 230.0 | 222.7 | 218.9 | 221.4 |
| East Coast              | 61.4  | 66.6  | 62.1  | 62.8  | 61.9  | 58.7  | 61.1  | 59.5  | 64.4  | 59.0  | 56.6  | 60.0  |
| Midwest                 | 64.5  | 66.8  | 61.0  | 59.7  | 58.8  | 59.3  | 57.4  | 55.7  | 61.3  | 58.2  | 55.7  | 55.7  |
| Gulf Coast              | 68.0  | 71.9  | 65.4  | 61.2  | 61.0  | 61.6  | 66.7  | 61.7  | 66.1  | 66.7  | 67.8  | 66.4  |
| Rocky Mountain          | 8.5   | 8.5   | 7.7   | 7.2   | 7.0   | 6.6   | 6.2   | 5.9   | 6.3   | 6.5   | 7.2   | 7.5   |
| West Coast              | 33.6  | 32.0  | 31.9  | 33.0  | 29.4  | 27.2  | 28.0  | 28.6  | 32.0  | 32.2  | 30.8  | 31.5  |
| <b>1989</b>             |       |       |       |       |       |       |       |       |       |       |       |       |
| Finished Motor Gasoline | 205.7 | 203.7 | 189.1 | 188.5 | 183.4 | 178.0 | 190.1 | 182.1 | 185.6 | 182.6 | 185.0 | 177.1 |
| Leaded                  | 41.3  | 39.1  | 32.0  | 29.0  | 26.5  | 24.9  | 24.8  | 22.3  | 20.6  | 18.8  | 18.8  | 17.7  |
| Unleaded                | 164.4 | 164.6 | 157.1 | 159.4 | 157.0 | 153.1 | 165.3 | 159.7 | 164.9 | 163.8 | 166.3 | 159.4 |
| Blending Components     | 42.9  | 43.8  | 41.2  | 38.7  | 39.8  | 38.3  | 38.8  | 38.6  | 41.1  | 39.9  | 38.6  | 36.4  |
| Total Gasoline          | 248.6 | 247.5 | 230.3 | 227.1 | 223.2 | 216.4 | 228.9 | 220.7 | 226.7 | 222.5 | 223.6 | 213.4 |
| East Coast              | 67.9  | 67.3  | 64.0  | 63.4  | 62.3  | 60.5  | 65.0  | 61.9  | 61.7  | 63.6  | 63.4  | 56.9  |
| Midwest                 | 69.2  | 69.0  | 66.1  | 62.8  | 55.6  | 54.0  | 59.4  | 58.6  | 62.5  | 58.7  | 58.8  | 57.4  |
| Gulf Coast              | 67.5  | 71.8  | 66.2  | 64.9  | 69.1  | 66.8  | 66.5  | 63.6  | 66.6  | 63.7  | 62.9  | 60.2  |
| Rocky Mountain          | 8.1   | 8.0   | 7.2   | 6.1   | 5.7   | 5.9   | 6.2   | 6.0   | 6.6   | 6.4   | 6.9   | 7.5   |
| West Coast              | 35.8  | 31.5  | 26.8  | 30.0  | 30.6  | 29.2  | 31.8  | 30.5  | 29.2  | 30.2  | 31.6  | 31.3  |

## Stocks of Distillate Fuel Oil

(Add 000,000 bbl.)

| Year           | Jan.  | Feb.  | Mar. | Apr. | May   | June  | July  | Aug.  | Sept. | Oct.  | Nov.  | Dec.  |
|----------------|-------|-------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|
| <b>1990</b>    |       |       |      |      |       |       |       |       |       |       |       |       |
| Total U.S.     | 117.9 | 112.2 | 99.7 | 99.5 | 102.8 | 109.4 | 125.3 | 131.1 | 136.5 | 136.8 | 132.8 | 132.2 |
| East Coast     | 44.3  | 39.5  | 30.9 | 30.0 | 33.6  | 40.1  | 51.7  | 57.9  | 63.0  | 65.4  | 60.8  | 55.6  |
| Midwest        | 33.2  | 32.6  | 30.1 | 29.4 | 29.9  | 30.0  | 31.6  | 30.4  | 30.0  | 28.8  | 30.0  | 32.7  |
| Gulf Coast     | 25.8  | 24.8  | 23.6 | 25.5 | 24.0  | 24.9  | 28.5  | 29.1  | 29.4  | 29.5  | 27.0  | 28.1  |
| Rocky Mountain | 3.2   | 3.2   | 2.7  | 2.7  | 2.9   | 3.1   | 3.1   | 2.5   | 2.5   | 2.5   | 2.8   | 3.3   |
| West Coast     | 11.5  | 12.2  | 12.3 | 11.9 | 12.4  | 11.3  | 10.4  | 11.2  | 11.6  | 10.6  | 12.3  | 12.5  |
| <b>1989</b>    |       |       |      |      |       |       |       |       |       |       |       |       |
| Total U.S.     | 120.6 | 107.6 | 96.7 | 98.5 | 99.6  | 99.6  | 115.0 | 116.3 | 123.2 | 121.7 | 119.8 | 105.7 |
| East Coast     | 46.6  | 37.2  | 33.3 | 33.2 | 33.1  | 35.7  | 44.6  | 48.4  | 50.2  | 51.7  | 49.7  | 35.1  |
| Midwest        | 32.7  | 31.3  | 27.2 | 27.4 | 27.2  | 27.0  | 28.8  | 29.0  | 31.1  | 28.7  | 28.9  | 30.7  |
| Gulf Coast     | 27.7  | 26.2  | 22.8 | 23.9 | 25.3  | 23.9  | 27.7  | 26.1  | 28.5  | 27.6  | 27.0  | 25.0  |
| Rocky Mountain | 2.8   | 2.7   | 2.3  | 2.4  | 2.8   | 2.4   | 2.6   | 2.6   | 2.7   | 2.5   | 2.8   | 3.3   |
| West Coast     | 10.8  | 10.3  | 11.1 | 11.7 | 11.2  | 10.6  | 11.3  | 10.2  | 10.7  | 11.1  | 11.3  | 11.6  |

## Stocks of Residual Fuel Oil

(Add 000,000 bbl.)

| Year           | Jan. | Feb. | Mar. | Apr. | May  | June | July | Aug. | Sept. | Oct. | Nov. | Dec. |
|----------------|------|------|------|------|------|------|------|------|-------|------|------|------|
| <b>1990</b>    |      |      |      |      |      |      |      |      |       |      |      |      |
| Total U.S.     | 49.7 | 51.5 | 46.2 | 49.0 | 49.6 | 46.8 | 49.0 | 48.2 | 49.5  | 49.5 | 50.3 | 48.6 |
| East Coast     | 22.3 | 23.2 | 18.4 | 19.1 | 19.9 | 20.1 | 21.5 | 20.6 | 22.3  | 22.5 | 22.2 | 23.3 |
| Midwest        | 3.6  | 3.5  | 3.5  | 3.7  | 4.1  | 3.8  | 3.6  | 3.8  | 4.1   | 3.7  | 3.4  | 3.3  |
| Gulf Coast     | 15.6 | 16.4 | 15.7 | 16.3 | 16.1 | 13.9 | 14.6 | 14.7 | 14.6  | 15.2 | 15.4 | 14.4 |
| Rocky Mountain | 0.5  | 0.4  | 0.5  | 0.5  | 0.5  | 0.5  | 0.5  | 0.5  | 0.5   | 0.5  | 0.5  | 0.5  |
| West Coast     | 7.7  | 8.0  | 8.0  | 9.4  | 9.1  | 8.3  | 8.8  | 8.7  | 8.0   | 7.7  | 8.8  | 7.1  |
| <b>1989</b>    |      |      |      |      |      |      |      |      |       |      |      |      |
| Total U.S.     | 47.2 | 45.6 | 41.6 | 40.1 | 42.5 | 44.1 | 42.7 | 44.5 | 49.4  | 50.9 | 52.4 | 43.8 |
| East Coast     | 21.6 | 19.0 | 16.0 | 16.1 | 17.2 | 17.5 | 17.5 | 19.1 | 22.3  | 25.2 | 25.3 | 18.8 |
| Midwest        | 3.5  | 3.4  | 3.2  | 2.8  | 3.1  | 3.2  | 3.1  | 3.1  | 3.5   | 3.3  | 3.3  | 3.5  |
| Gulf Coast     | 12.3 | 12.9 | 13.2 | 12.1 | 13.2 | 14.3 | 13.3 | 14.9 | 15.0  | 13.9 | 14.2 | 13.7 |
| Rocky Mountain | 0.7  | 0.6  | 0.6  | 0.5  | 0.5  | 0.6  | 0.6  | 0.6  | 0.6   | 0.5  | 0.5  | 0.5  |
| West Coast     | 9.2  | 9.7  | 8.7  | 8.6  | 8.4  | 8.5  | 8.2  | 6.9  | 8.1   | 8.0  | 9.1  | 7.5  |

# Refinery and Bulk Terminal Stocks by States and PAD Regions (a) — 1990

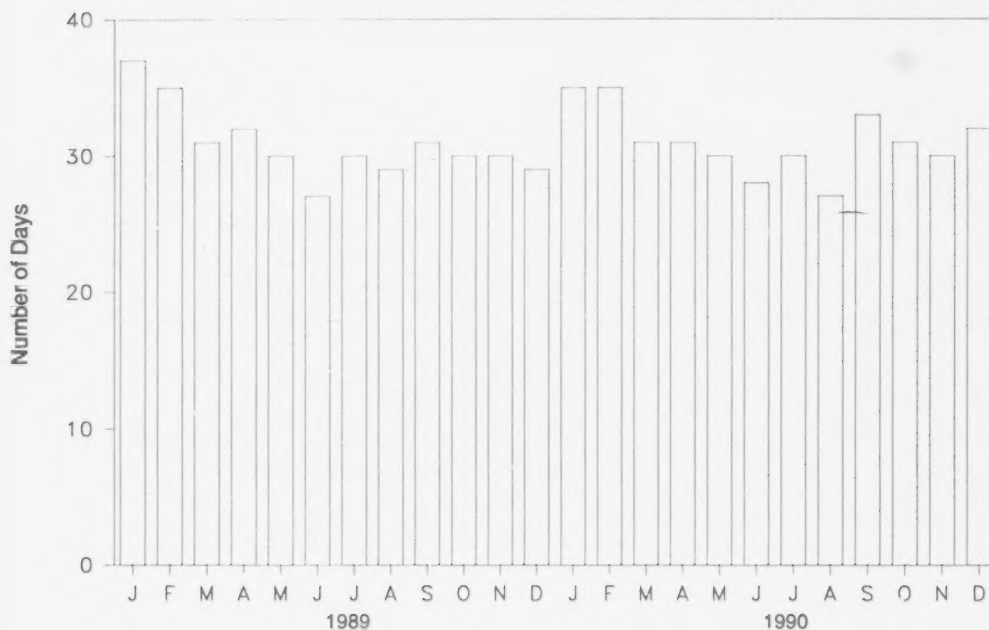
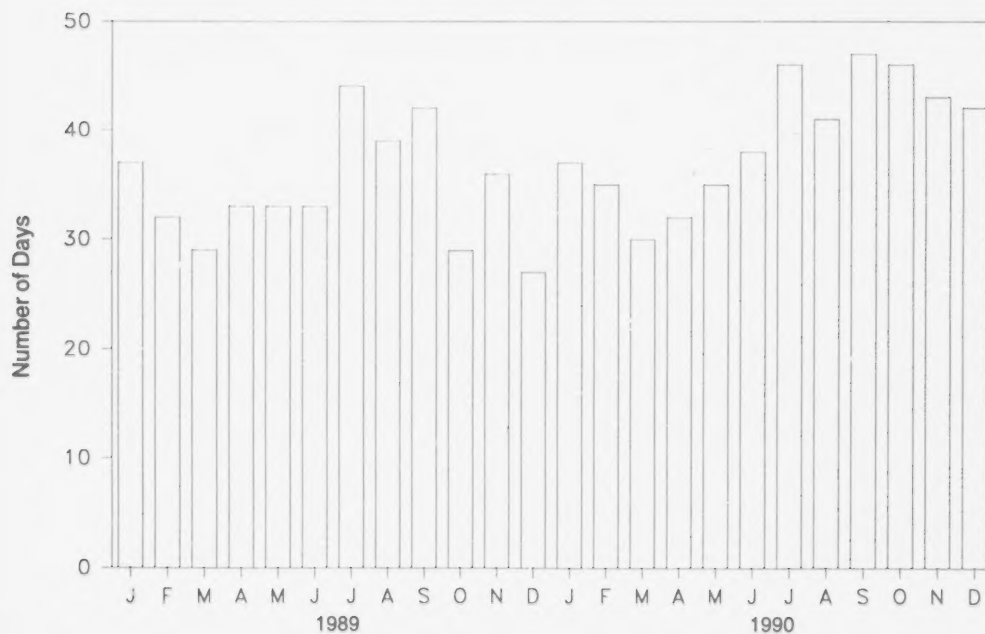
(Add 000 bbl.)

| State                               | Leaded Gasoline | Unleaded Gasoline | Kerosine     | Distillate     | Residual Fuel |
|-------------------------------------|-----------------|-------------------|--------------|----------------|---------------|
| <b>PAD District 1</b>               |                 |                   |              |                |               |
| Connecticut .....                   | 0               | 1,719             | 215          | 2,722          | 394           |
| Delaware, D.C., Maryland .....      | 41              | 2,338             | 96           | 4,276          | 2,928         |
| Florida .....                       | 0               | 5,579             | 87           | 2,392          | 1,115         |
| Georgia .....                       | 3               | 2,641             | 114          | 1,463          | 261           |
| Maine, New Hampshire, Vermont ..... | 0               | 1,091             | 283          | 2,253          | 609           |
| Massachusetts .....                 | 0               | 2,580             | 121          | 2,180          | 1,124         |
| New Jersey .....                    | 1               | 7,557             | 65           | 12,755         | 8,967         |
| New York .....                      | 3               | 4,551             | 431          | 7,798          | 5,244         |
| North Carolina .....                | 14              | 2,550             | 272          | 1,707          | 166           |
| Pennsylvania .....                  | 4               | 4,856             | 488          | 5,257          | 1,237         |
| Rhode Island .....                  | 0               | 530               | W            | 1,099          | W             |
| South Carolina .....                | 0               | 1,657             | 158          | 1,074          | W             |
| Virginia .....                      | 12              | 3,686             | 186          | 2,910          | 616           |
| West Virginia .....                 | 22              | 107               | W            | 98             | W             |
| <b>Total .....</b>                  | <b>100</b>      | <b>41,442</b>     | <b>2,629</b> | <b>47,964</b>  | <b>23,274</b> |
| <b>PAD District 2</b>               |                 |                   |              |                |               |
| Illinois .....                      | 178             | 6,386             | 307          | 4,984          | 1,465         |
| Indiana .....                       | 257             | 4,299             | 94           | 3,414          | 378           |
| Iowa .....                          | 100             | 1,363             | W            | 1,385          | W             |
| Kansas, Nebraska .....              | 337             | 1,985             | 21           | 2,060          | 58            |
| Kentucky .....                      | 10              | 1,425             | 93           | 911            | W             |
| Michigan .....                      | 87              | 3,197             | 108          | 1,877          | 135           |
| Minnesota .....                     | 166             | 1,549             | W            | 1,343          | 166           |
| Missouri .....                      | 151             | 1,224             | W            | 842            | W             |
| North Dakota, South Dakota .....    | 62              | 746               | W            | 895            | W             |
| Ohio .....                          | 4               | 3,797             | 355          | 2,286          | 199           |
| Oklahoma .....                      | 61              | 1,599             | W            | 1,452          | 279           |
| Tennessee .....                     | 0               | 2,067             | 75           | 1,286          | 373           |
| Wisconsin .....                     | 13              | 1,839             | W            | 1,726          | 30            |
| <b>Total .....</b>                  | <b>1,426</b>    | <b>31,476</b>     | <b>1,275</b> | <b>24,461</b>  | <b>3,315</b>  |
| <b>PAD District 3</b>               |                 |                   |              |                |               |
| Alabama .....                       | 0               | 1,501             | 81           | 912            | 488           |
| Arkansas .....                      | 2               | 620               | W            | 367            | W             |
| Louisiana .....                     | 10              | 6,210             | 259          | 3,994          | 5,278         |
| Mississippi .....                   | 8               | 2,237             | 12           | 2,366          | W             |
| New Mexico .....                    | 145             | 406               | W            | 378            | 24            |
| Texas .....                         | 412             | 17,945            | 688          | 12,161         | 8,243         |
| <b>Total .....</b>                  | <b>577</b>      | <b>28,919</b>     | <b>1,044</b> | <b>20,178</b>  | <b>14,383</b> |
| <b>PAD District 4</b>               |                 |                   |              |                |               |
| Colorado .....                      | 176             | 855               | W            | 463            | W             |
| Idaho .....                         | 151             | 163               | W            | 250            | W             |
| Montana .....                       | 336             | 608               | W            | 713            | 66            |
| Utah .....                          | 116             | 330               | W            | 422            | 177           |
| Wyoming .....                       | 180             | 704               | W            | 856            | W             |
| <b>Total .....</b>                  | <b>959</b>      | <b>2,660</b>      | <b>25</b>    | <b>2,704</b>   | <b>496</b>    |
| <b>PAD District 5</b>               |                 |                   |              |                |               |
| Alaska .....                        | 256             | 666               | W            | 1,172          | W             |
| Arizona .....                       | 292             | 635               | W            | 235            | W             |
| California .....                    | 2,538           | 10,099            | 54           | 6,574          | 4,434         |
| Hawaii .....                        | 32              | 624               | W            | 508            | W             |
| Nevada .....                        | 111             | 217               | W            | 178            | W             |
| Oregon .....                        | 592             | 1,122             | W            | 833            | 95            |
| Washington .....                    | 1,223           | 2,493             | W            | 1,840          | 709           |
| <b>Total .....</b>                  | <b>5,044</b>    | <b>15,856</b>     | <b>74</b>    | <b>11,340</b>  | <b>6,955</b>  |
| <b>U.S. Total .....</b>             | <b>8,106</b>    | <b>120,353</b>    | <b>5,047</b> | <b>106,667</b> | <b>48,423</b> |

W=Withheld to avoid disclosure of individual company data.

(a) Stocks are reported as of the last day of the month.

Source: Energy Information Administration, Petroleum Supply Monthly, Table 42, February 1991.

**Gasoline Inventories — Number of Days Supply****Distillate Inventories — Number of Days Supply**

Source: Energy Information Administration, Weekly Petroleum Status Report. Graphs by NPN.

# U.S. Crude Oil Production — 1989 – 1980

(Thousands of b/d)

|                        | 1989           | 1988           | 1987           | 1986           | 1985           | 1984           | 1983           | 1982           | 1981           | 1980           |
|------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>PAD District 1</b>  |                |                |                |                |                |                |                |                |                |                |
| Florida .....          | 20.0           | 21.2           | 22.7           | 25.7           | 31.4           | 39.6           | 53.4           | 70.2           | 95.3           | 117.2          |
| New York .....         | 1.4            | 1.5            | 1.9            | 2.3            | 2.9            | 2.3            | 2.3            | 2.3            | 2.3            | 2.3            |
| Pennsylvania .....     | 7.4            | 7.7            | 9.0            | 10.4           | 13.3           | 11.7           | 11.7           | 11.7           | 10.2           | 7.2            |
| Virginia .....         | **             | **             | **             | **             | **             | **             | 0.2            | 0.1            | **             | **             |
| West Virginia .....    | 6.1            | 7.2            | 7.8            | 8.6            | 9.7            | 9.7            | 9.9            | 8.9            | 9.5            | 6.4            |
| <b>Total .....</b>     | <b>34.9</b>    | <b>37.6</b>    | <b>41.4</b>    | <b>47</b>      | <b>57.3</b>    | <b>63.3</b>    | <b>77.5</b>    | <b>93.2</b>    | <b>117.3</b>   | <b>133.1</b>   |
| <b>PAD District 2</b>  |                |                |                |                |                |                |                |                |                |                |
| Illinois .....         | 55.8           | 61.4           | 65.7           | 74.6           | 82.9           | 79.1           | 80.0           | 75.9           | 66.0           | 62.0           |
| Indiana .....          | 9.1            | 10.0           | 10.2           | 13.0           | 14.2           | 15.1           | 14.6           | 15.2           | 12.9           | 13.6           |
| Kansas .....           | 152.0          | 160.7          | 164.1          | 183.7          | 206.6          | 207.5          | 196.1          | 193.2          | 180.3          | 164.3          |
| Kentucky .....         | 14.8           | 14.9           | 15.7           | 17.7           | 21.3           | 21.3           | 21.6           | 20.2           | 17.9           | 16.2           |
| Michigan .....         | 59.1           | 63.5           | 71.2           | 70.4           | 74.8           | 83.7           | 86.9           | 86.2           | 89.5           | 97.8           |
| Missouri .....         | 0.4            | 0.4            | 0.3            | 0.3            | 0.6            | 0.8            | 0.7            | 0.6            | 0.6            | 0.3            |
| Nebraska .....         | 17.1           | 16.3           | 16.7           | 19.4           | 19.0           | 17.7           | 17.5           | 18.8           | 18.3           | 17.0           |
| North Dakota .....     | 100.7          | 107.5          | 113.3          | 125.0          | 139.3          | 144.3          | 138.9          | 129.5          | 124.4          | 110.2          |
| Ohio .....             | 28.0           | 32.0           | 33.3           | 36.8           | 41.1           | 41.8           | 41.0           | 39.9           | 37.1           | 35.3           |
| Oklahoma .....         | 321.9          | 352.1          | 368.2          | 386.6          | 445.9          | 461.3          | 434.5          | 434.6          | 422.1          | 410.2          |
| South Dakota .....     | 4.4            | 4.5            | 4.5            | 4.3            | 4.4            | 3.7            | 3.2            | 3.2            | 2.7            | 2.1            |
| Tennessee .....        | 1.5            | 1.6            | 1.7            | 2.1            | 2.9            | 3.3            | 3.6            | 3.7            | 3.2            | 2.4            |
| <b>Total .....</b>     | <b>764.8</b>   | <b>824.9</b>   | <b>864.9</b>   | <b>933.9</b>   | <b>1,053.0</b> | <b>1,079.6</b> | <b>1,038.6</b> | <b>1,021.0</b> | <b>975.0</b>   | <b>931.4</b>   |
| <b>PAD District 3</b>  |                |                |                |                |                |                |                |                |                |                |
| Alabama .....          | 54.3           | 56.8           | 56.5           | 57.9           | 59.1           | 54.3           | 51.4           | 54.8           | 56.6           | 60.5           |
| Arkansas .....         | 30.9           | 37.2           | 39.0           | 43.2           | 52.2           | 51.3           | 51.6           | 51.6           | 50.3           | 49.8           |
| Louisiana .....        | 1,107.7        | 1,194.4        | 1,304.2        | 1,403.0        | 1,392.4        | 1,411.7        | 1,313.90       | 1,255.9        | 1,231.0        | 1,281.8        |
| Mississippi .....      | 75.1           | 75.3           | 77.0           | 82.2           | 83.9           | 89.8           | 86.20          | 90.5           | 93.7           | 98.2           |
| New Mexico .....       | 188.3          | 194.6          | 198.2          | 207.4          | 215.2          | 217.4          | 205.90         | 194.6          | 196.1          | 205.1          |
| Texas .....            | 1,961.8        | 2,084.2        | 2,152.0        | 2,300.3        | 2,435.2        | 2,478.8        | 2,473.00       | 2,535.1        | 2,589.4        | 2,670.6        |
| <b>Total .....</b>     | <b>3,418.1</b> | <b>3,642.5</b> | <b>3,826.9</b> | <b>4,094.0</b> | <b>4,238.0</b> | <b>4,303.3</b> | <b>4,182.0</b> | <b>4,182.5</b> | <b>4,217.1</b> | <b>4,366.0</b> |
| <b>PAD District 4</b>  |                |                |                |                |                |                |                |                |                |                |
| Colorado .....         | 84.0           | 88.4           | 78.9           | 80.3           | 82.9           | 79.0           | 79.6           | 83.7           | 83.0           | 81.4           |
| Montana .....          | 57.4           | 63.8           | 68.7           | 74.2           | 81.6           | 81.5           | 80.1           | 84.7           | 84.4           | 80.0           |
| Utah .....             | 77.9           | 90.2           | 98.0           | 107.3          | 111.8          | 95.0           | 80.9           | 61.5           | 70.9           | 68.2           |
| Wyoming .....          | 295.1          | 311.4          | 315.8          | 332.4          | 352.1          | 340.5          | 324.1          | 324.1          | 357.7          | 345.2          |
| <b>Total .....</b>     | <b>514.4</b>   | <b>553.8</b>   | <b>561.4</b>   | <b>594.2</b>   | <b>628.4</b>   | <b>596.0</b>   | <b>564.7</b>   | <b>554.0</b>   | <b>596.0</b>   | <b>574.8</b>   |
| <b>PAD District 5</b>  |                |                |                |                |                |                |                |                |                |                |
| Alaska .....           | 1,873.9        | 2,016.8        | 1,961.5        | 1,866.6        | 1,825.3        | 1,727.1        | 1,713.8        | 1,695.6        | 1,609.1        | 1,616.6        |
| Arizona .....          | 0.4            | 0.3            | 0.4            | 0.4            | 0.5            | 0.6            | 0.6            | 0.9            | 1.0            | 1.1            |
| California .....       | 997.9          | 1,054.7        | 1,084.1        | 1,114.2        | 1,161.3        | 1,128.8        | 1,108.7        | 1,100.2        | 1,054.7        | 975.2          |
| Nevada .....           | 8.8            | 8.8            | 8.5            | 8.0            | 8.3            | 5.2            | 2.2            | 1.7            | 1.9            | 2.4            |
| <b>Total .....</b>     | <b>2,881.0</b> | <b>3,080.6</b> | <b>3,054.5</b> | <b>2,989.2</b> | <b>2,995.4</b> | <b>2,861.7</b> | <b>2,825.3</b> | <b>2,798.4</b> | <b>2,666.7</b> | <b>2,595.3</b> |
| <b>Total U.S. ....</b> | <b>7,613.2</b> | <b>8,139.4</b> | <b>8,349.1</b> | <b>8,658.3</b> | <b>8,972.1</b> | <b>8,903.9</b> | <b>8,688.1</b> | <b>8,649.1</b> | <b>8,572.1</b> | <b>8,600.6</b> |

\*\*Less than 100 barrels per day.

Source: Independent Petroleum Assn. of America, "The Oil and Natural Gas Producing Industry in Your State," 1990-1991.



## IPAA's New Outlook: Soft Demand, Slight Downturn in Supply

The Independent Petroleum Assn. of America's latest petroleum supply and demand forecast, released in May 1991, is only slightly different in most categories from IPAA's earlier October 1990 forecast, published in *NPN's* January issue (p27).

The forecast by IPAA's supply and demand committee projects a modest decline in total demand of 0.5% to an average for the year of 17.7-million b/d. Gasoline demand is expected to drop 0.8% for the year. The supply side softens somewhat, too, in the committee's 1991

scenario, declining 0.9% to an average of 17.7-million b/d.

The level of crude and product imports continues to be a disturbing factor, IPAA says. Crude imports are projected to increase 2.8% to 6-million b/d, while total imports edge up 0.2% to 7.9-million b/d.

| 1991 FORECAST<br>(Add 000 b/d)           |                |                |                |                |                 |                   |
|------------------------------------------|----------------|----------------|----------------|----------------|-----------------|-------------------|
|                                          | 1st<br>Quarter | 2nd<br>Quarter | 3rd<br>Quarter | 4th<br>Quarter | 1991<br>Average | 1990-91<br>% Chg. |
| <b>DEMAND</b>                            |                |                |                |                |                 |                   |
| <b>Domestic Products</b>                 |                |                |                |                |                 |                   |
| Motor Gasoline                           | 6,841          | 7,245          | 7,348          | 7,192          | 7,158           | -0.8%             |
| Aviation Fuels                           | 1,482          | 1,462          | 1,490          | 1,539          | 1,493           | -1.4              |
| Distillate Fuel                          | 3,253          | 2,925          | 2,872          | 3,204          | 3,063           | 1.4               |
| Residual Fuel Oil                        | 1,261          | 1,125          | 1,110          | 1,226          | 1,180           | -3.7              |
| Other Products                           | 3,798          | 3,790          | 4,109          | 3,999          | 3,925           | -0.5              |
| <b>Total Domestic Demand</b>             | <b>16,635</b>  | <b>16,547</b>  | <b>16,929</b>  | <b>17,160</b>  | <b>16,819</b>   | <b>-0.6</b>       |
| <b>Total Exports</b>                     | <b>987</b>     | <b>784</b>     | <b>781</b>     | <b>919</b>     | <b>867</b>      | <b>0.3</b>        |
| <b>TOTAL DEMAND</b>                      | <b>17,622</b>  | <b>17,331</b>  | <b>17,710</b>  | <b>18,079</b>  | <b>17,686</b>   | <b>-0.5</b>       |
| <b>SUPPLY</b>                            |                |                |                |                |                 |                   |
| <b>Domestic Production</b>               |                |                |                |                |                 |                   |
| Crude Oil                                | 7,450          | 7,310          | 7,190          | 7,102          | 7,262           | -0.5%             |
| Natural Gas Liquids                      | 1,563          | 1,550          | 1,546          | 1,582          | 1,560           | 0.6               |
| <b>Total Production</b>                  | <b>9,013</b>   | <b>8,860</b>   | <b>8,736</b>   | <b>8,684</b>   | <b>8,822</b>    | <b>-0.3</b>       |
| <b>Imports</b>                           |                |                |                |                |                 |                   |
| Motor Gasoline                           | 263            | 417            | 395            | 356            | 358             | -8.4              |
| Aviation Fuels                           | 67             | 106            | 84             | 81             | 85              | -17.5             |
| Distillate Fuel                          | 214            | 240            | 241            | 285            | 245             | -11.2             |
| Residual Fuel Oil                        | 442            | 462            | 465            | 478            | 462             | -8.2              |
| Other Products                           | 781            | 756            | 817            | 775            | 782             | -2.9              |
| <b>Total Products</b>                    | <b>1,767</b>   | <b>1,981</b>   | <b>2,002</b>   | <b>1,975</b>   | <b>1,932</b>    | <b>-7.0</b>       |
| Crude Oil Imports                        | 5,503          | 6,073          | 6,433          | 6,021          | 6,010           | 2.8               |
| <b>Total Imports</b>                     | <b>7,270</b>   | <b>8,054</b>   | <b>8,435</b>   | <b>7,996</b>   | <b>7,942</b>    | <b>0.2</b>        |
| Other Supply                             | 859            | 929            | 987            | 1,044          | 955             | -13.2             |
| <b>TOTAL SUPPLY</b>                      | <b>17,142</b>  | <b>17,843</b>  | <b>18,158</b>  | <b>17,724</b>  | <b>17,719</b>   | <b>-0.9</b>       |
| <b>Refinery Inputs</b>                   | <b>12,750</b>  | <b>13,420</b>  | <b>13,800</b>  | <b>13,330</b>  | <b>13,328</b>   | <b>-0.6</b>       |
| <b>CLOSING STOCKS (millions of bbl.)</b> |                |                |                |                |                 |                   |
| Motor Gasoline                           | 214.2          | 213.2          | 222.4          | 221.9          | 221.9           | 0.2%              |
| Aviation Fuels                           | 46.4           | 46.9           | 49.0           | 48.5           | 48.5            | -9.9              |
| Distillate Fuel                          | 99.7           | 106.2          | 129.1          | 129.3          | 129.3           | -2.2              |
| Residual Fuel Oil                        | 44.6           | 46.2           | 49.0           | 48.4           | 48.4            | -0.4              |
| Other Products                           | 252.0          | 285.4          | 292.9          | 264.2          | 264.2           | 2.0               |
| <b>Total Products</b>                    | <b>556.9</b>   | <b>697.9</b>   | <b>742.4</b>   | <b>712.3</b>   | <b>712.3</b>    | <b>-0.4</b>       |
| Crude Oil Stocks                         | 337.8          | 343.4          | 340.1          | 337.5          | 337.5           | 4.5               |
| <b>TOTAL STOCKS</b>                      | <b>994.7</b>   | <b>1,041.3</b> | <b>1,082.5</b> | <b>1,049.8</b> | <b>1,049.8</b>  | <b>1.1</b>        |

NOTES: Other supply products include refinery processing gain, unaccounted crude oil, and other hydrocarbons. SPR imports and stocks are excluded. Refinery inputs include crude oil, NGL, unfinished oils, and other hydrocarbons.  
Source: IPAA Supply and Demand Committee, May 1991.

## U.S. Refinery Operations

| U.S. Refinery Operations              | Full Year     |        |         | 4th Quarter   |        |         | 3rd Quarter   |        |         | 2nd Quarter   |        |         |
|---------------------------------------|---------------|--------|---------|---------------|--------|---------|---------------|--------|---------|---------------|--------|---------|
|                                       | (Add 000 b/d) |        |         | (Add 000 b/d) |        |         | (Add 000 b/d) |        |         | (Add 000 b/d) |        |         |
|                                       | 1990          | 1989   | % Chng. | 1990          | 1989   | % Chng. | 1990          | 1989   | % Chng. | 1990          | 1989   | % Chng. |
| Input to crude oil distillation units | 13,591        | 13,551 | 0.3     | 13,052        | 13,441 | (2.9)   | 14,380        | 13,960 | 3.0     | 13,525        | 13,585 | (0.4)   |
| Operable capacity                     | 15,565        | 15,701 | (0.9)   | 15,616        | 15,738 | (0.8)   | 15,525        | 15,709 | (1.2)   | 15,575        | 15,692 | (0.7)   |
| Refinery utilization (%)              | 87.3          | 86.3   | 1.2     | 83.6          | 85.4   | (2.1)   | 92.6          | 88.9   | 4.2     | 86.8          | 86.6   | 0.2     |
| Crude oil runs                        | 13,410        | 13,401 | 0.1     | 12,825        | 13,314 | (3.7)   | 14,195        | 13,834 | 2.6     | 13,356        | 13,422 | (0.5)   |

Source: American Petroleum Institute, Monthly Statistical Reports, 1990.

## Crude Oil and Product Inventories

| Stocks                     | Full Year          |         |         | 4th Quarter        |         |         | 3rd Quarter        |         |         | 2nd Quarter        |         |         |
|----------------------------|--------------------|---------|---------|--------------------|---------|---------|--------------------|---------|---------|--------------------|---------|---------|
|                            | (Add 000,000 bbl.) |         |         | (Add 000,000 bbl.) |         |         | (Add 000,000 bbl.) |         |         | (Add 000,000 bbl.) |         |         |
|                            | 1990               | 1989    | % Chng. | 1990               | 1989    | % Chng. | 1990               | 1989    | % Chng. | 1990               | 1989    | % Chng. |
| Crude oil (a)              | 324.3              | 341.3   | (5.0)   | 324.3              | 341.3   | (5.0)   | 352.8              | 334.9   | 5.3     | 383.3              | 331.3   | 15.7    |
| Unfinished oils            | 99.1               | 106.2   | (6.7)   | 99.1               | 106.2   | (6.7)   | 112.1              | 107.1   | 4.7     | 115.0              | 113.7   | 1.1     |
| Total motor gasoline (b)   | 223.1              | 213.4   | 4.5     | 223.1              | 213.4   | 4.5     | 224.7              | 226.7   | (0.9)   | 214.8              | 216.4   | (0.7)   |
| Finished leaded gasoline   | 10.2               | 17.7    | (42.4)  | 10.2               | 17.7    | (42.4)  | 11.0               | 20.6    | (46.6)  | 10.9               | 24.9    | (56.2)  |
| Finished unleaded gasoline | 173.5              | 159.4   | 8.8     | 173.5              | 159.4   | 8.8     | 172.9              | 164.9   | 4.9     | 165.2              | 153.1   | 7.9     |
| Naphtha jet                | 6.0                | 6.4     | (6.3)   | 6.0                | 6.4     | (6.3)   | 6.1                | 6.8     | (10.3)  | 6.4                | 6.2     | 3.2     |
| Kerosine jet               | 44.8               | 34.5    | 29.9    | 44.8               | 34.5    | 29.9    | 42.6               | 41.1    | 3.6     | 41.7               | 38.4    | 8.6     |
| Distillate fuel oil        | 129.8              | 105.7   | 22.8    | 129.8              | 105.7   | 22.8    | 134.2              | 123.2   | 8.9     | 110.8              | 99.6    | 11.2    |
| Residual fuel oil          | 49.3               | 43.8    | 12.6    | 49.3               | 43.8    | 12.6    | 51.1               | 49.4    | 3.4     | 44.1               | 44.1    | 0.0     |
| All other oils             | 151.1              | 1,503   | 0.5     | 151.1              | 1,503   | 0.5     | 203.6              | 201.1   | 1.2     | 188.8              | 186.2   | 1.4     |
| Total all oils             | 1,027.5            | 1,001.6 | 2.6     | 1,027.5            | 1,027.5 | 2.6     | 1,127.2            | 1,090.3 | 3.4     | 104.9              | 1,035.9 | 6.7     |

(a) Does not include Strategic Petroleum Reserve; (b) Total includes lead and unleaded gasolines and blending components.  
Source: American Petroleum Institute, Monthly Statistical Reports, 1990.

## Domestic Supply Trend

| Year     | (Add 000,000 bbl.) |          |              |            |          |     |       |       |
|----------|--------------------|----------|--------------|------------|----------|-----|-------|-------|
|          | All products       | Gasoline | Kerosine (a) | Distillate | Residual | LPG | Lubes | Other |
| 1990 (b) | 6,190              | 2,630    | 546          | 1,114      | 447      | 611 | 61    | 781   |
| 1989     | 6,324              | 2,675    | 543          | 1,152      | 500      | 609 | 58    | 751   |
| 1988     | 6,261              | 2,670    | 481          | 1,132      | 487      | 631 | 58    | 802   |
| 1987     | 6,083              | 2,630    | 465          | 1,086      | 461      | 588 | 59    | 794   |
| 1986     | 5,943              | 2,576    | 439          | 1,064      | 518      | 555 | 52    | 739   |
| 1985     | 5,740              | 2,493    | 404          | 1,047      | 439      | 584 | 53    | 720   |
| 1980     | 6,932              | 2,536    | 397          | 1,389      | 1,033    | 414 | 58    | 1,105 |

(a) Kerosine includes jet fuel; (b) Preliminary.

Source: Energy Information Administration, Petroleum Supply Monthly, Table 5, and American Petroleum Institute.

## U.S. Estimated Petroleum Balance

| Petroleum Products Supplied From Primary Storage (a) | Full Year     |               |              | 4th Quarter   |               |               | 3rd Quarter   |               |              | 2nd Quarter   |               |              |
|------------------------------------------------------|---------------|---------------|--------------|---------------|---------------|---------------|---------------|---------------|--------------|---------------|---------------|--------------|
|                                                      | (Add 000 b/d) |               |              | (Add 000 b/d) |               |               | (Add 000 b/d) |               |              | (Add 000 b/d) |               |              |
|                                                      | 1990          | 1989          | % Chng.      | 1990          | 1989          | % Chng.       | 1990          | 1989          | % Chng.      | 1990          | 1989          | % Chng.      |
| <b>PRODUCTS SUPPLIED:</b>                            |               |               |              |               |               |               |               |               |              |               |               |              |
| Motor gasoline, total                                | 7,206         | 7,328         | (1.7)        | 7,116         | 7,335         | (3.2)         | 7,443         | 7,420         | 0.3          | 7,326         | 7,439         | (1.5)        |
| Finished leaded gasoline                             | 385           | 821           | (53.1)       | 304           | 580           | (47.6)        | 386           | 789           | (51.1)       | 420           | 917           | (54.2)       |
| Finished unleaded gasoline                           | 6,821         | 6,507         | 4.8          | 6,812         | 6,775         | 0.5           | 7,057         | 6,631         | 6.4          | 6,906         | 6,522         | 5.9          |
| Naphtha jet                                          | 182           | 205           | (11.2)       | 183           | 203           | (9.9)         | 178           | 209           | (14.8)       | 180           | 213           | (15.5)       |
| Kerosine jet                                         | 1,314         | 1,284         | 2.3          | 1,385         | 1,377         | 0.6           | 1,331         | 1,264         | 5.3          | 1,279         | 1,179         | 8.5          |
| Distillate fuel oil                                  | 3,050         | 3,157         | (3.4)        | 3,082         | 3,452         | (10.7)        | 2,902         | 2,816         | 3.1          | 2,925         | 2,977         | (1.7)        |
| Residual fuel oil                                    | 1,225         | 1,370         | (10.6)       | 1,098         | 1,470         | (25.3)        | 1,200         | 1,141         | 5.2          | 1,176         | 1,246         | (5.6)        |
| All other oils                                       | 4,131         | 4,132         | 0.0          | 4,186         | 4,160         | 0.6           | 4,252         | 4,160         | 2.2          | 3,938         | 3,953         | (0.4)        |
| Reclassified                                         | -148          | -151          | (2.0)        | -188          | -187          | 0.5           | -137          | -140          | (2.1)        | -113          | -122          | (7.4)        |
| <b>Total domestic products supplied</b>              | <b>16,960</b> | <b>17,325</b> | <b>(2.1)</b> | <b>16,862</b> | <b>17,830</b> | <b>(5.4)</b>  | <b>17,169</b> | <b>16,870</b> | <b>1.8</b>   | <b>16,711</b> | <b>16,885</b> | <b>(1.0)</b> |
| Exports                                              | 813           | 859           | (5.4)        | 899           | 944           | (4.8)         | 730           | 802           | (9.0)        | 612           | 858           | (5.4)        |
| <b>Total Products Supplied</b>                       | <b>17,773</b> | <b>18,184</b> | <b>(2.3)</b> | <b>17,761</b> | <b>18,774</b> | <b>(5.4)</b>  | <b>17,899</b> | <b>17,672</b> | <b>1.3</b>   | <b>17,523</b> | <b>17,743</b> | <b>(1.2)</b> |
| <b>SUPPLY:</b>                                       |               |               |              |               |               |               |               |               |              |               |               |              |
| Domestic production:                                 |               |               |              |               |               |               |               |               |              |               |               |              |
| Crude oil                                            | 7,224         | 7,613         | (5.1)        | 7,231         | 7,441         | (2.8)         | 7,079         | 7,512         | (5.8)        | 7,225         | 7,738         | (6.6)        |
| Natural gas liquids                                  | 1,545         | 1,546         | (0.1)        | 1,625         | 1,434         | 13.3          | 1,456         | 1,509         | (3.5)        | 1,470         | 1,601         | (8.2)        |
| Other supply:                                        | 1,118         | 922           | 21.3         | 1,192         | 893           | 33.5          | 1,124         | 984           | 14.2         | 915           | 897           | 2.0          |
| <b>Total domestic supply</b>                         | <b>9,887</b>  | <b>10,081</b> | <b>(1.9)</b> | <b>10,048</b> | <b>9,768</b>  | <b>2.9</b>    | <b>9,659</b>  | <b>10,005</b> | <b>(3.5)</b> | <b>9,610</b>  | <b>10,236</b> | <b>(6.1)</b> |
| Imports:                                             |               |               |              |               |               |               |               |               |              |               |               |              |
| Crude oil, total (b)                                 | 5,884         | 5,787         | 1.7          | 5,075         | 5,908         | (14.1)        | 6,466         | 6,216         | 4.0          | 6,186         | 5,753         | 7.5          |
| Canadian                                             | 633           | 630           | 0.5          | 631           | 599           | 5.3           | 683           | 626           | 9.1          | 648           | 640           | 1.3          |
| Other                                                | 5,251         | 5,157         | 1.8          | 4,444         | 5,309         | (16.3)        | 5,783         | 5,590         | 3.5          | 5,538         | 5,113         | 8.3          |
| Products, total                                      | 2,073         | 2,217         | (6.5)        | 1,741         | 2,133         | (18.4)        | 2,118         | 2,042         | 3.7          | 2,226         | 2,125         | 4.8          |
| Residual fuel oil                                    | 497           | 629           | (21.0)       | 391           | 603           | (35.2)        | 497           | 504           | (1.4)        | 536           | 584           | (8.2)        |
| Other                                                | 1,576         | 1,588         | (0.8)        | 1,350         | 1,530         | (11.8)        | 1,621         | 1,538         | 5.4          | 1,690         | 1,541         | 9.7          |
| <b>Total imports</b>                                 | <b>7,957</b>  | <b>8,004</b>  | <b>(0.6)</b> | <b>6,816</b>  | <b>8,041</b>  | <b>(15.2)</b> | <b>8,584</b>  | <b>8,258</b>  | <b>3.9</b>   | <b>8,412</b>  | <b>7,878</b>  | <b>6.8</b>   |
| <b>Total supply</b>                                  | <b>17,844</b> | <b>18,085</b> | <b>(1.3)</b> | <b>16,864</b> | <b>17,809</b> | <b>(5.3)</b>  | <b>18,243</b> | <b>18,263</b> | <b>(0.1)</b> | <b>18,022</b> | <b>18,114</b> | <b>(0.5)</b> |

(a) Preliminary; (b) Does not include SPR reports or reserves.

Source: American Petroleum Institute, Monthly Statistical Reports, 1990.

# Petroleum Product Consumption — 1989

(Add 000 bbl.)

| State               | Motor<br>Gasoline | Aviation<br>Fuels | Middle<br>Distillates (a) | Residual<br>Fuel Oil | Propane        | All<br>Other (b) | Total<br>Products |
|---------------------|-------------------|-------------------|---------------------------|----------------------|----------------|------------------|-------------------|
| Alabama.....        | 46,237            | 1,611             | 17,563                    | 3,035                | 3,921          | 12,701           | 85,068            |
| Alaska.....         | 5,133             | 16,776            | 9,090                     | 17,857               | 209            | 8,611            | 57,676            |
| Arizona.....        | 39,476            | 6,774             | 9,644                     | 6,548                | 1,217          | 11,173           | 74,832            |
| Arkansas.....       | 31,233            | 944               | 14,106                    | 17                   | 3,146          | 8,678            | 58,124            |
| California.....     | 333,225           | 85,187            | 91,505                    | 65,545               | 9,020          | 102,582          | 687,064           |
| Colorado.....       | 37,355            | 4,978             | 10,436                    | 217                  | 2,788          | 9,789            | 65,563            |
| Connecticut.....    | 32,012            | 1,965             | 21,128                    | 27,004               | 1,141          | 14,611           | 97,861            |
| Delaware.....       | 9,291             | 132               | 7,360                     | 3,633                | 1,606          | 3,865            | 25,887            |
| Dist. of Col.....   | 4,060             | 0                 | 3,695                     | 1,476                | 0              | 1,620            | 10,851            |
| Florida.....        | 147,290           | 28,551            | 36,550                    | 32,536               | 8,034          | 44,397           | 297,358           |
| Georgia.....        | 81,518            | 15,196            | 25,983                    | 1,759                | 5,699          | 22,843           | 152,998           |
| Hawaii.....         | 8,365             | 10,699            | 3,530                     | 13,809               | 2,024          | 6,744            | 45,171            |
| Idaho.....          | 11,117            | 647               | 5,481                     | 43                   | 506            | 3,123            | 20,917            |
| Illinois.....       | 104,997           | 4,373             | 30,755                    | 2,454                | 10,152         | 26,806           | 179,537           |
| Indiana.....        | 61,009            | 16,427            | 31,351                    | 2,364                | 6,619          | 20,670           | 138,440           |
| Iowa.....           | 33,717            | 875               | 17,736                    | 238                  | 6,060          | 10,289           | 68,915            |
| Kansas.....         | 37,186            | 3,279             | 17,297                    | 770                  | 19,167         | 13,637           | 91,336            |
| Kentucky.....       | 43,037            | 4,568             | 19,901                    | 371                  | 3,308          | 12,494           | 83,679            |
| Louisiana.....      | 59,949            | 27,671            | 43,347                    | 34,588               | 11,915         | 31,148           | 208,618           |
| Maine.....          | 17,002            | 1,100             | 12,036                    | 11,079               | 570            | 7,334            | 49,121            |
| Maryland.....       | 46,875            | 2,978             | 19,765                    | 12,522               | 1,073          | 14,605           | 97,818            |
| Massachusetts.....  | 60,221            | 8,765             | 46,213                    | 28,229               | 1,775          | 25,485           | 170,688           |
| Michigan.....       | 100,715           | 7,896             | 25,361                    | 1,360                | 13,651         | 26,148           | 175,131           |
| Minnesota.....      | 48,617            | 4,938             | 19,614                    | 1,011                | 6,493          | 14,159           | 94,832            |
| Mississippi.....    | 32,158            | 5,549             | 24,978                    | 405                  | 8,848          | 12,626           | 84,564            |
| Missouri.....       | 60,577            | 6,886             | 18,902                    | 961                  | 8,170          | 16,760           | 112,256           |
| Montana.....        | 10,867            | 819               | 6,419                     | 109                  | 1,340          | 3,432            | 22,986            |
| Nebraska.....       | 17,964            | 649               | 12,718                    | 952                  | 3,055          | 6,202            | 41,540            |
| Nevada.....         | 15,836            | 3,823             | 6,886                     | 217                  | 803            | 4,838            | 32,403            |
| New Hampshire.....  | 8,366             | 240               | 9,573                     | 1,156                | 1,077          | 3,583            | 23,995            |
| New Jersey.....     | 124,838           | 39,895            | 90,210                    | 38,154               | 2,134          | 51,816           | 347,047           |
| New Mexico.....     | 18,424            | 1,573             | 8,354                     | 83                   | 3,201          | 5,552            | 37,187            |
| New York.....       | 125,533           | 4,963             | 64,782                    | 70,516               | 4,965          | 47,521           | 318,280           |
| North Carolina..... | 80,155            | 5,503             | 31,896                    | 6,183                | 7,766          | 23,080           | 154,583           |
| North Dakota.....   | 8,060             | 323               | 6,707                     | 714                  | 2,424          | 3,199            | 21,427            |
| Ohio.....           | 124,877           | 9,787             | 42,906                    | 1,915                | 6,229          | 32,595           | 218,309           |
| Oklahoma.....       | 48,494            | 11,045            | 18,077                    | 1,638                | 5,401          | 14,858           | 99,513            |
| Oregon.....         | 31,727            | 2,940             | 17,491                    | 5,774                | 1,045          | 10,351           | 69,328            |
| Pennsylvania.....   | 119,285           | 9,923             | 63,336                    | 22,730               | 6,591          | 38,939           | 260,804           |
| Rhode Island.....   | 14,347            | 628               | 11,730                    | 1,842                | 395            | 5,080            | 34,022            |
| South Carolina..... | 40,888            | 824               | 14,493                    | 2,885                | 3,191          | 10,931           | 73,212            |
| South Dakota.....   | 8,942             | 1,322             | 5,857                     | 262                  | 1,265          | 3,097            | 20,745            |
| Tennessee.....      | 68,120            | 4,33              | 29,214                    | 568                  | 2,565          | 18,393           | 123,193           |
| Texas.....          | 289,917           | 95,907            | 129,825                   | 44,717               | 66,204         | 109,969          | 736,539           |
| Utah.....           | 19,542            | 5,325             | 8,342                     | 332                  | 1,170          | 6,092            | 40,803            |
| Vermont.....        | 4,153             | 178               | 2,472                     | 242                  | 677            | 1,355            | 9,077             |
| Virginia.....       | 73,051            | 11,291            | 35,438                    | 9,565                | 2,643          | 23,165           | 155,153           |
| Washington.....     | 58,297            | 17,452            | 23,459                    | 13,415               | 2,412          | 20,190           | 135,225           |
| West Virginia.....  | 13,782            | 410               | 7,602                     | 668                  | 317            | 3,998            | 26,777            |
| Wisconsin.....      | 48,886            | 1,496             | 22,698                    | 609                  | 5,755          | 13,943           | 93,387            |
| Wyoming.....        | 6,556             | 293               | 8,661                     | 817                  | 2,871          | 3,369            | 22,567            |
| <b>Total.....</b>   | <b>2,873,276</b>  | <b>497,643</b>    | <b>1,262,469</b>          | <b>476,828</b>       | <b>271,018</b> | <b>944,458</b>   | <b>6,325,692</b>  |

(a) Middle distillates include kerosine; (b) All other includes naphtha, lubricants, waxes, petroleum coke, and still gas.

Source: Independent Petroleum Assn. of America, "The Oil and Natural Gas Industry in your State", 1990-1991.

## Supply and Demand, Principle Products

(Add 000 bbl.)

| Year                   | Motor Gasoline | Aviation Gasoline | Distillate Fuel Oil | Residual Fuel Oil | Jet Fuel(a) | Lubricants | Asphalt |
|------------------------|----------------|-------------------|---------------------|-------------------|-------------|------------|---------|
| <b>Domestic Supply</b> |                |                   |                     |                   |             |            |         |
| 1990 (b)               | 2,660,527      | 9,426             | 1,114,983           | 457,416           | 543,968     | 61,159     | 188,408 |
| 1989                   | 2,674,720      | 9,490             | 1,152,305           | 500,050           | 543,485     | 58,035     | 163,345 |
| <b>Production</b>      |                |                   |                     |                   |             |            |         |
| 1990 (b)               | 2,560,254      | 8,918             | 988,532             | 348,856           | 529,173     | 61,239     | 172,426 |
| 1989                   | 2,541,495      | 9,125             | 1,058,135           | 348,210           | 512,095     | 61,320     | 154,760 |
| <b>Imports</b>         |                |                   |                     |                   |             |            |         |
| 1990 (b)               | 126,520        | 55                | 104,581             | 190,302           | 39,106      | 3,589      | 11,862  |
| 1989                   | 134,685        | —                 | 111,690             | 229,585           | 38,690      | 4,015      | 11,315  |

(a) Includes Naphtha and Kerosine-based fuels.

(b) Preliminary including some estimates by NPN.

Source: Energy Information Administration, Petroleum Supply Monthly.

## U.S. Oil Imports (a)

(Add 000 b/d)

| Year     | Crude Oil | Other Products | Residual Fuel Oil | Total Imports | % of Total U.S. Supply |
|----------|-----------|----------------|-------------------|---------------|------------------------|
| 1990 (b) | 5,884     | 1,576          | 497               | 7,957         | 46.9                   |
| 1989     | 5,787     | 1,588          | 629               | 8,004         | 46.2                   |
| 1988     | 5,107     | 1,651          | 644               | 7,402         | 42.8                   |
| 1987     | 4,674     | 1,439          | 565               | 6,678         | 40.0                   |

(a) Does not include Strategic Petroleum Reserve.

(b) Preliminary.

Source: Energy Information Administration, Petroleum Supply Monthly.

## Origins of U.S. Oil Imports

| Year    | OPEC Sources |                    | Arab OPEC |                    | Western Hemispheres |                    | Eastern Hemispheres |                    |
|---------|--------------|--------------------|-----------|--------------------|---------------------|--------------------|---------------------|--------------------|
|         | 000 b/d      | % Of Total Imports | 000 b/d   | % Of Total Imports | 000 b/d             | % Of Total Imports | 000 b/d             | % Of Total Imports |
| 1990(a) | 4,750        | 53.8               | 2,867     | 32.5               | 4,475               | 34.79              | 4,475               | 34.79              |
| 1989    | 4,140        | 51.3               | 2,130     | 26.4               | 4,513               | 34.66              | 4,513               | 34.66              |
| 1988    | 3,520        | 47.6               | 1,839     | 24.8               | 4,361               | 30.77              | 4,361               | 30.77              |
| 1987    | 3,060        | 45.8               | 1,274     | 19.1               | 4,069               | 28.08              | 4,069               | 28.08              |

(a) Preliminary.

Source: Energy Information Administration, Petroleum Supply Monthly.

## Unleaded Gasoline: Growth by Years

(Add 000 b/d)

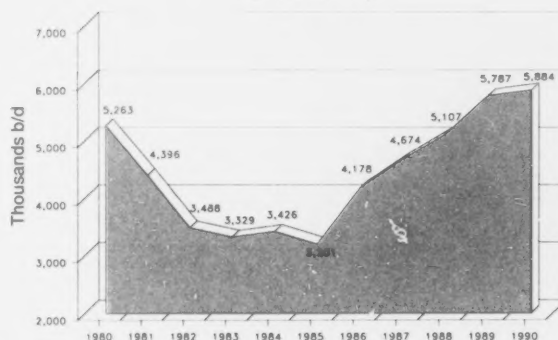
|                      | Total Gasoline Consumption | Unleaded Gasoline Consumption | Unleaded Gasoline of Total |
|----------------------|----------------------------|-------------------------------|----------------------------|
| <b>1990 Avg.</b>     | <b>7,208</b>               | <b>6,824</b>                  | <b>94.7%</b>               |
| January              | 6,675                      | 6,772                         | 94.0                       |
| February             | 7,129                      | 6,657                         | 93.4                       |
| March                | 7,325                      | 6,881                         | 93.9                       |
| April                | 7,116                      | 6,696                         | 94.1                       |
| May                  | 7,304                      | 6,884                         | 94.2                       |
| June                 | 7,448                      | 7,059                         | 94.4                       |
| July                 | 7,415                      | 7,012                         | 94.6                       |
| August               | 7,771                      | 7,360                         | 94.7                       |
| September            | 6,897                      | 6,574                         | 95.3                       |
| October              | 7,201                      | 6,854                         | 95.2                       |
| November             | 7,257                      | 6,956                         | 95.9                       |
| December             | 6,920                      | 6,669                         | 96.4                       |
| <b>1989 Avg.</b>     | <b>7,326</b>               | <b>6,500</b>                  | <b>88.7%</b>               |
| January              | 6,732                      | 5,753                         | 85.4                       |
| February             | 7,045                      | 6,119                         | 86.3                       |
| March                | 7,421                      | 6,381                         | 86.0                       |
| April                | 7,150                      | 6,238                         | 87.2                       |
| May                  | 7,416                      | 6,486                         | 87.5                       |
| June                 | 7,803                      | 6,886                         | 88.3                       |
| July                 | 7,316                      | 6,518                         | 89.1                       |
| August               | 7,709                      | 6,917                         | 89.7                       |
| September            | 7,225                      | 6,428                         | 89.0                       |
| October              | 7,256                      | 6,586                         | 90.8                       |
| November             | 7,356                      | 6,746                         | 91.7                       |
| December             | 7,420                      | 6,909                         | 93.1                       |
| <b>1988 Avg.</b>     | <b>7,336</b>               | <b>5,995</b>                  | <b>81.7%</b>               |
| <b>1985 Avg.</b>     | <b>7,034</b>               | <b>4,854</b>                  | <b>69.0%</b>               |
| <b>1984 Avg.</b>     | <b>6,693</b>               | <b>3,987</b>                  | <b>59.6%</b>               |
| <b>1982 Avg.</b>     | <b>6,539</b>               | <b>3,409</b>                  | <b>52.1%</b>               |
| <b>1980 Avg.</b>     | <b>6,579</b>               | <b>3,067</b>                  | <b>46.6%</b>               |
| <b>1977 Avg. (a)</b> | <b>7,117</b>               | <b>1,976</b>                  | <b>27.5%</b>               |

(a) Unleaded was mandated in July, 1977.

Source: Energy Information Administration, Monthly Energy Review, December 1990, and Petroleum Supply Monthly, 1990.

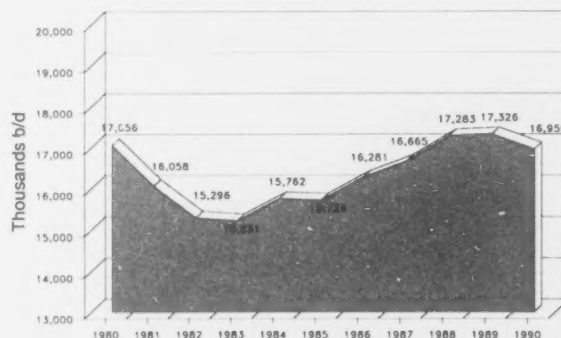
## Crude Oil Imports

(Add 000 b/d)



## Domestic Supply of Oil Products

(Add 000 b/d)



# State Motor Fuel Tax Collections

| State             | State Gas.<br>Tax Rates<br>Per Gal.<br>In 1990 | Total State Motor Fuel<br>Tax Revenues (a)<br>(Add 000) |           | %<br>Change | State                 | State Gas.<br>Tax Rates<br>Per Gal.<br>In 1990 | Total State Motor Fuel<br>Tax Revenues (a)<br>(Add 000) |            | %<br>Change |
|-------------------|------------------------------------------------|---------------------------------------------------------|-----------|-------------|-----------------------|------------------------------------------------|---------------------------------------------------------|------------|-------------|
|                   |                                                | 1990                                                    | 1989      |             |                       |                                                | 1990                                                    | 1989       |             |
| Alabama.....      | 13e                                            | \$430,079                                               | \$367,484 | 17.0%       | Nevada.....           | 18.6                                           | 131,244                                                 | 140,679    | (6.7)       |
| Alaska.....       | 8                                              | 22,887                                                  | 19,825    | 15.4        | New Hampshire..       | 16                                             | 94,362                                                  | 86,800     | 8.7         |
| Arizona.....      | 18                                             | 363,691                                                 | 350,217   | 3.8         | New Jersey.....       | 10.5                                           | 422,036                                                 | 426,341    | (1.0)       |
| Arkansas.....     | 13.5                                           | 213,499                                                 | 214,820   | (0.6)       | New Mexico.....       | 16.2                                           | 169,533                                                 | 151,659    | 11.8        |
| California.....   | 14                                             | 1,494,544                                               | 1,299,547 | 15.0        | New York.....         | 8                                              | 520,587                                                 | 532,255    | (2.2)       |
| Colorado.....     | 20                                             | 332,359                                                 | 307,894   | 7.9         | North Carolina....    | 21.5                                           | 832,383                                                 | 692,110    | 20.3        |
| Connecticut.....  | 22                                             | 329,327                                                 | 317,160   | 3.9         | North Dakota.....     | 17                                             | 68,624                                                  | 72,592     | (5.5)       |
| Delaware.....     | 16                                             | 62,059                                                  | 65,372    | (5.1)       | Ohio.....             | 20                                             | 1,092,589                                               | 939,322    | 16.3        |
| Dist. of Col..... | 18                                             | 34,692                                                  | 29,293    | 19.4        | Oklahoma.....         | 16                                             | 304,156                                                 | 317,134    | (4.1)       |
| Florida.....      | 10.9                                           | 727,963                                                 | 729,970   | (0.3)       | Oregon.....           | 18                                             | 294,050                                                 | 216,399    | 35.9        |
| Georgia.....      | 7.5                                            | 326,845                                                 | 329,628   | (0.8)       | Pennsylvania.....     | 12                                             | 685,930                                                 | 1,015,249  | (34.4)      |
| Hawaii.....       | 11                                             | 42,468                                                  | 43,189    | (1.7)       | Rhode Island.....     | 20                                             | 83,096                                                  | 73,446     | 13.1        |
| Idaho.....        | 18                                             | 97,210                                                  | 101,450   | (4.2)       | South Carolina...     | 16.5                                           | 344,154                                                 | 337,536    | 1.9         |
| Illinois.....     | 19                                             | 1,153,473                                               | 510,547   | 42.3        | South Dakota.....     | 18                                             | 74,873                                                  | 78,989     | (5.2)       |
| Indiana.....      | 15                                             | 510,303                                                 | 583,163   | (9.4)       | Tennessee.....        | 21.4                                           | 647,010                                                 | 592,063    | 9.3         |
| Iowa.....         | 20                                             | 319,126                                                 | 322,380   | (1.0)       | Texas.....            | 15                                             | 1,437,960                                               | 1,508,004  | (4.6)       |
| Kansas.....       | 16                                             | 226,095                                                 | 191,368   | 18.1        | Utah.....             | 19                                             | 154,842                                                 | 162,245    | (4.6)       |
| Kentucky.....     | 15                                             | 338,075                                                 | 361,090   | (6.4)       | Vermont.....          | 16                                             | 51,330                                                  | 49,896     | 2.9         |
| Louisiana.....    | 20                                             | 419,664                                                 | 361,171   | 16.2        | Virginia.....         | 17.7                                           | 614,015                                                 | 600,657    | 2.2         |
| Maine.....        | 17                                             | 118,190                                                 | 123,673   | (4.4)       | Washington.....       | 22                                             | 331,755                                                 | 453,992    | 17.1        |
| Maryland.....     | 18.5                                           | 425,854                                                 | 458,668   | (5.1)       | West Virginia.....    | 20.35                                          | 163,383                                                 | 136,745    | 19.5        |
| Massachusetts...  | 17                                             | 376,292                                                 | 313,786   | 19.9        | Wisconsin.....        | 21.5                                           | 518,564                                                 | 515,417    | 0.6         |
| Michigan.....     | 15                                             | 703,700                                                 | 685,058   | 2.7         | Wyoming.....          | 9                                              | 42,074                                                  | 39,178     | 7.4         |
| Minnesota.....    | 20                                             | 447,007                                                 | 446,593   | 0.1         |                       |                                                |                                                         |            |             |
| Mississippi.....  | 18                                             | 291,856                                                 | 282,816   | 3.2         | Total U.S. ....       | —                                              | 19,729,940                                              | 18,868,820 |             |
| Missouri.....     | 11                                             | 358,858                                                 | 357,931   | 0.3         | % Change              |                                                |                                                         |            |             |
| Montana.....      | 20                                             | 101,101                                                 | 103,970   | (2.8)       | from prior year ..... | —                                              | 4.8%                                                    | 5.9%       | 4.6%        |
| Nebraska.....     | 21.4                                           | 203,952                                                 | 182,049   | 12.0        |                       |                                                |                                                         |            |             |

(a) Estimated for 1990. Both 1990 and 1989 totals include some miscellaneous "other receipts," however, these are smallish amounts. The bulk of the taxes herein are for gasoline. The totals do NOT include diesel fuel or LPG taxes.

Source: Federal Highway Administration, Table SS89-2, published October 1990.





# State and Federal Gasoline Taxes — 1990

(¢ per gal.)

| State (a)              | State Gasoline<br>Tax Rate | State Gasohol<br>Tax Rate | State Diesel<br>Tax Rate | State Sales<br>or Special Taxes | Local<br>Option | State + 14.0¢<br>Federal Tax |
|------------------------|----------------------------|---------------------------|--------------------------|---------------------------------|-----------------|------------------------------|
| Alabama.....           | 13.0                       | 13.0                      | 14.0                     | —                               | Yes             | 27.0                         |
| Alaska.....            | 8.0                        | 0.0                       | 8.0                      | —                               | —               | 22.0                         |
| Arizona.....           | 18.0                       | 18.0                      | 18.0                     | —                               | —               | 32.0                         |
| Arkansas.....          | 13.5                       | 13.5                      | 12.5                     | —                               | —               | 27.5                         |
| California.....        | 14.0                       | 14.0                      | 14.0                     | 6.25%                           | Yes             | 28.0                         |
| Colorado**.....        | 22.0                       | 22.0                      | 18.0                     | —                               | —               | 36.0                         |
| Connecticut.....       | 22.0                       | 19.0                      | 22.0                     | 3.0%                            | —               | 36.0                         |
| Delaware**.....        | 19.0                       | 19.0                      | 19.0                     | —                               | —               | 33.0                         |
| Dist. of Col.....      | 18.0                       | 18.0                      | 18.0                     | —                               | —               | 32.0                         |
| Florida*.....          | 10.9                       | 10.9                      | 10.9                     | —                               | Yes             | 24.9                         |
| Georgia.....           | 7.5                        | 7.5                       | 7.5                      | 4.0%                            | —               | 21.5                         |
| Hawaii.....            | 11.0                       | 11.0                      | 11.0                     | 4.0%                            | Yes             | 25.0                         |
| Idaho.....             | 18.0                       | 14.0                      | 18.0                     | —                               | —               | 32.0                         |
| Illinois.....          | 19.0                       | 19.0                      | 21.5                     | 6.25%                           | Yes             | 33.0                         |
| Indiana.....           | 15.0                       | 15.0                      | 16.0                     | 5.0%                            | —               | 29.0                         |
| Iowa.....              | 20.0                       | 19.0                      | 22.5                     | —                               | —               | 34.0                         |
| Kansas.....            | 16.0                       | 15.0                      | 18.0                     | —                               | —               | 30.0                         |
| Kentucky*.....         | 15.0                       | 15.0                      | 12.0                     | —                               | —               | 29.0                         |
| Louisiana.....         | 20.0                       | 20.0                      | 20.0                     | —                               | —               | 34.0                         |
| Maine.....             | 17.0                       | 17.0                      | 20.0                     | —                               | —               | 31.0                         |
| Maryland.....          | 18.5                       | 18.5                      | 18.5                     | —                               | —               | 32.5                         |
| Massachusetts* **..... | 21.0                       | 21.0                      | 21.0                     | —                               | —               | 35.0                         |
| Michigan*.....         | 15.0                       | 15.0                      | 15.0                     | 4.0%                            | —               | 29.0                         |
| Minnesota.....         | 20.0                       | 18.0                      | 20.0                     | —                               | —               | 34.0                         |
| Mississippi.....       | 18.0                       | 18.0                      | 18.0                     | —                               | Yes             | 32.0                         |
| Missouri.....          | 11.0                       | 11.0                      | 11.0                     | —                               | —               | 25.0                         |
| Montana.....           | 20.0                       | 20.0                      | 20.0                     | —                               | —               | 34.0                         |
| Nebraska* **.....      | 26.4                       | 23.4                      | 26.4                     | —                               | —               | 40.4                         |
| Nevada.....            | 18.0                       | 18.0                      | 22.0                     | —                               | Yes             | 32.0                         |
| New Hampshire.....     | 16.0                       | 16.0                      | 16.0                     | —                               | —               | 30.0                         |
| New Jersey.....        | 10.5                       | 4.5                       | 13.5                     | —                               | —               | 24.5                         |
| New Mexico.....        | 16.2                       | 16.2                      | 16.2                     | —                               | Yes             | 30.2                         |
| New York.....          | 8.0                        | 8.0                       | 10.0                     | 6.75%                           | Yes             | 22.0                         |
| North Carolina*.....   | 21.5                       | 21.5                      | 21.5                     | —                               | —               | 35.5                         |
| North Dakota.....      | 17.0                       | 17.0                      | 17.0                     | —                               | —               | 31.0                         |
| Ohio*.....             | 20.0                       | 20.0                      | 20.0                     | —                               | —               | 34.0                         |
| Oklahoma.....          | 16.0                       | 16.0                      | 13.0                     | —                               | —               | 30.0                         |
| Oregon**.....          | 20.0                       | 20.0                      | 20.0                     | —                               | Yes             | 34.0                         |
| Pennsylvania.....      | 12.0                       | 12.0                      | 12.0                     | 6.0%                            | —               | 26.0                         |
| Rhode Island*.....     | 20.0                       | 20.0                      | 20.0                     | —                               | —               | 34.0                         |
| South Carolina.....    | 16.0                       | 10.0                      | 16.0                     | —                               | —               | 30.0                         |
| South Dakota.....      | 18.0                       | 16.0                      | 18.0                     | —                               | Yes             | 32.0                         |
| Tennessee.....         | 21.4                       | 21.4                      | 17.4                     | —                               | Yes             | 35.4                         |
| Texas.....             | 15.0                       | 15.0                      | 15.0                     | —                               | —               | 29.0                         |
| Utah.....              | 19.0                       | 19.0                      | 19.0                     | —                               | —               | 33.0                         |
| Vermont.....           | 16.0                       | 16.0                      | 17.0                     | —                               | —               | 30.0                         |
| Virginia.....          | 17.7                       | 17.7                      | 16.2                     | —                               | Yes             | 31.7                         |
| Washington.....        | 22.0                       | 22.0                      | 22.0                     | —                               | —               | 36.0                         |
| West Virginia*.....    | 20.35                      | 20.35                     | 20.35                    | —                               | —               | 34.35                        |
| Wisconsin*.....        | 21.5                       | 21.5                      | 21.5                     | —                               | —               | 35.5                         |
| Wyoming.....           | 9.0                        | 5.0                       | 9.0                      | —                               | —               | 23.0                         |

\*Variable tax expressed in cents per gal.

\*\*Recent rate change.

Source: National Highway Users Federation, as of January 8, 1991.

# Net Gasoline Revenues by States (a)

(Thousands of Dollars)

| State                                | 1990 (b)   | 1989 (c)   | 1988       | 1987       | 1986       | 1985       |
|--------------------------------------|------------|------------|------------|------------|------------|------------|
| Alabama.....                         | 346,234    | 295,842    | 273,375    | 269,040    | 252,869    | 245,035    |
| Alaska.....                          | 22,832     | 19,777     | 20,936     | 19,360     | 21,258     | 24,144     |
| Arizona.....                         | 359,288    | 345,977    | 323,549    | 314,240    | 294,210    | 229,543    |
| Arkansas.....                        | 213,499    | 214,820    | 203,548    | 198,430    | 197,101    | 189,804    |
| California.....                      | 1,489,621  | 1,295,266  | 1,275,415  | 1,258,470  | 1,200,981  | 1,140,251  |
| Colorado.....                        | 332,288    | 307,828    | 305,102    | 253,050    | 244,666    | 185,088    |
| Connecticut.....                     | 324,862    | 312,812    | 296,633    | 282,780    | 238,322    | 212,053    |
| Delaware.....                        | 62,038     | 65,350     | 62,064     | 52,920     | 41,878     | 39,552     |
| Dist. of Col.....                    | 34,920     | 29,258     | 28,053     | 28,210     | 25,169     | 24,753     |
| Florida.....                         | 663,688    | 665,518    | 645,830    | 631,368    | 592,452    | 552,407    |
| Georgia.....                         | 323,205    | 325,957    | 321,118    | 307,425    | 293,307    | 278,403    |
| Hawaii.....                          | 42,423     | 43,143     | 41,632     | 41,250     | 39,132     | 32,609     |
| Idaho.....                           | 96,863     | 101,088    | 88,053     | 79,895     | 77,252     | 78,086     |
| Illinois.....                        | 1,153,473  | 810,547    | 720,879    | 726,510    | 672,139    | 639,106    |
| Indiana.....                         | 510,105    | 562,944    | 535,443    | 523,900    | 512,623    | 416,034    |
| Iowa.....                            | 317,574    | 320,812    | 290,321    | 259,925    | 244,149    | 193,555    |
| Kansas.....                          | 225,925    | 191,224    | 168,069    | 162,120    | 153,857    | 150,421    |
| Kentucky.....                        | 337,317    | 360,280    | 338,240    | 307,440    | 239,069    | 191,457    |
| Louisiana.....                       | 418,511    | 360,179    | 374,220    | 368,480    | 341,887    | 351,109    |
| Maine.....                           | 118,018    | 123,493    | 111,514    | 103,180    | 88,333     | 85,350     |
| Maryland.....                        | 424,202    | 446,927    | 441,989    | 378,465    | 309,172    | 290,548    |
| Massachusetts.....                   | 365,336    | 304,650    | 307,329    | 296,120    | 281,257    | 285,988    |
| Michigan.....                        | 685,846    | 667,677    | 671,559    | 883,700    | 648,462    | 625,063    |
| Minnesota.....                       | 446,024    | 445,611    | 423,688    | 359,380    | 341,399    | 340,704    |
| Mississippi.....                     | 275,499    | 266,966    | 246,381    | 174,640    | 136,846    | 129,522    |
| Missouri.....                        | 356,977    | 356,055    | 344,478    | 297,440    | 215,445    | 208,208    |
| Montana.....                         | 100,838    | 103,700    | 102,292    | 91,945     | 80,177     | 78,966     |
| Nebraska.....                        | 203,395    | 182,034    | 64,125     | 163,472    | 152,691    | 129,180    |
| Nevada.....                          | 130,897    | 140,307    | 127,148    | 95,700     | 78,993     | 71,662     |
| New Hampshire.....                   | 86,087     | 79,188     | 79,025     | 78,120     | 71,115     | 66,231     |
| New Jersey.....                      | 421,769    | 426,071    | 383,697    | 308,930    | 349,050    | 312,791    |
| New Mexico.....                      | 161,759    | 144,705    | 113,626    | 127,025    | 103,709    | 98,149     |
| New York.....                        | 520,572    | 532,240    | 525,277    | 526,230    | 499,707    | 491,730    |
| North Carolina.....                  | 817,464    | 679,705    | 607,505    | 572,260    | 488,511    | 405,450    |
| North Dakota.....                    | 64,882     | 68,612     | 68,268     | 56,940     | 48,648     | 52,242     |
| Ohio.....                            | 1,092,589  | 939,322    | 796,873    | 745,690    | 604,960    | 549,637    |
| Oklahoma.....                        | 303,614    | 316,569    | 308,751    | 210,200    | 202,212    | 194,567    |
| Oregon.....                          | 293,733    | 216,166    | 191,312    | 151,800    | 141,149    | 125,967    |
| Pennsylvania.....                    | 661,502    | 1,008,498  | 997,123    | 393,160    | 920,233    | 892,469    |
| Rhode Island.....                    | 83,096     | 73,446     | 66,644     | 63,450     | 55,315     | 48,403     |
| South Carolina.....                  | 339,412    | 332,982    | 283,115    | 268,880    | 254,450    | 247,003    |
| South Dakota.....                    | 74,286     | 78,370     | 70,973     | 57,330     | 51,921     | 51,406     |
| Tennessee.....                       | 607,431    | 555,845    | 469,316    | 467,880    | 391,857    | 294,541    |
| Texas.....                           | 1,437,960  | 1,508,004  | 1,464,164  | 1,463,400  | 1,002,272  | 990,886    |
| Utah.....                            | 153,983    | 161,345    | 158,724    | 157,886    | 113,435    | 112,265    |
| Vermont.....                         | 51,330     | 49,896     | 43,524     | 39,660     | 39,004     | 37,949     |
| Virginia.....                        | 614,015    | 600,657    | 597,001    | 572,090    | 441,740    | 400,424    |
| Washington.....                      | 531,716    | 453,959    | 440,800    | 430,200    | 406,527    | 399,635    |
| West Virginia.....                   | 163,383    | 136,745    | 111,192    | 93,975     | 102,883    | 100,947    |
| Wisconsin.....                       | 518,564    | 515,417    | 509,196    | 440,181    | 403,094    | 374,029    |
| Wyoming.....                         | 39,532     | 36,811     | 37,785     | 31,680     | 35,319     | 34,278     |
| Total U.S.....                       | 19,420,377 | 18,580,595 | 17,476,874 | 16,185,822 | 14,742,207 | 13,679,600 |
| % Change vs.....<br>Preceding Period | 4.6%       | 5.6%       | 6.5%       | 12.1%      | 7.7%       | —          |

(a) Does not include sales and special taxes as levied in many states; does not include "other receipts" from gasoline sales.

(b) Preliminary.

(c) Revised and final.

Source: Federal Highway Administration, Table SS89-2, published October 1990.

### Tire Shipments Flatten Out in 1990

Slight increases in replacement tires and exports helped compensate for an 8% decline in original equipment shipments of tires in 1990, the Rubber Manufacturers Association reported in early 1991. Replacement tire shipments constitute about three-fourths of the total market.

|                    | Passenger    | Bus/<br>Truck | Farm<br>Equipment | Total<br>by Type<br>of Market |
|--------------------|--------------|---------------|-------------------|-------------------------------|
| Original Equipment | (7.8%)       | (14.5%)       | 7.3%              | (8.4%)                        |
| Replacement        | 0.7          | 1.7           | (4.3)             | 1.3                           |
| Export             | 13.5         | 7.5           | 8.9               | 8.8                           |
| <b>Total</b>       | <b>(0.5)</b> | <b>—</b>      | <b>(0.6)</b>      | <b>(0.4)</b>                  |

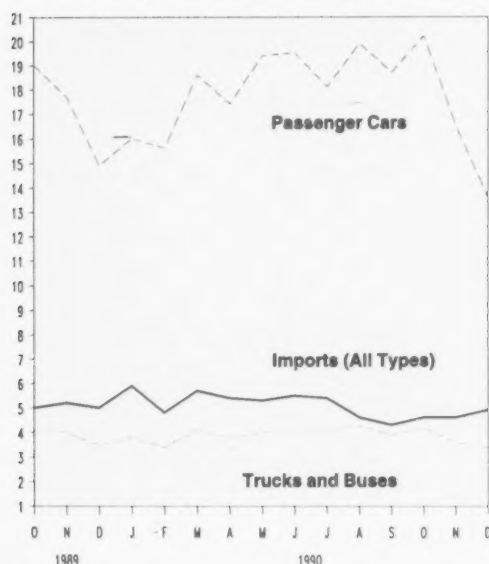
Source: Rubber Manufacturers Assn., Monthly Statistical Report, December 1990.

### 1990 Ethylene Glycol-Base Antifreeze Sales

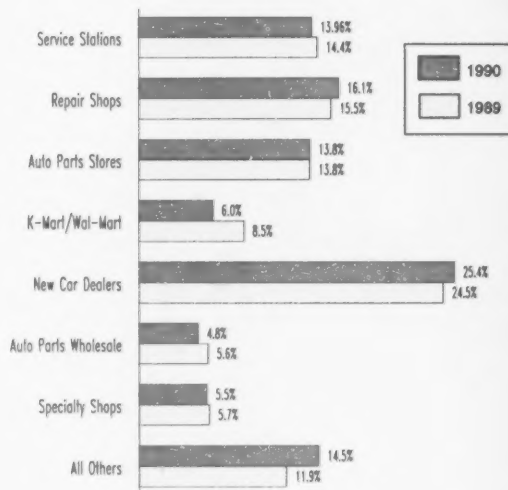
(Add 000 gal.)

| Type of Sale                                                                                                                                 | Civilian Sales     |
|----------------------------------------------------------------------------------------------------------------------------------------------|--------------------|
| Packaged ethylene glycol antifreeze sold in quart and gallon sizes                                                                           | 112,675,817        |
| ...sold in drums                                                                                                                             | 8,366,800          |
| <b>Total</b>                                                                                                                                 | <b>121,042,617</b> |
| Bulk ethylene glycol antifreeze (or ethylene glycol for antifreeze) sold to packagers                                                        | 60,168,356         |
| Bulk ethylene glycol antifreeze (or ethylene glycol for antifreeze) sold to motor vehicle manufacturers for "drive-away" or factory fill use | 10,876,794         |
| <b>Total</b>                                                                                                                                 | <b>192,087,767</b> |

### Tire Shipments and Import Trends



### Where Consumers Get Tune-ups



## Auto, Truck and Farm Tire Shipments

Type of Tire  
(Add 000)

|                    | Passenger      | % of<br>Market | Bus/<br>Truck | % of<br>Market | Farm<br>Equipment | % of<br>Market | Total of<br>Market Type | % of<br>Total |
|--------------------|----------------|----------------|---------------|----------------|-------------------|----------------|-------------------------|---------------|
| <b>1990</b>        |                |                |               |                |                   |                |                         |               |
| Original Equipment | 47,199         | 95.6%          | 6,993         | 12.7%          | 955               | 1.7%           | 55,147                  | 20.9%         |
| Replacement        | 152,251        | 79.6           | 36,588        | 19.1           | 2,549             | 1.3            | 191,388                 | 72.4          |
| Export             | 14,110         | 79.8           | 3,283         | 18.6           | 294               | 1.7            | 17,687                  | 6.7           |
| <b>Total</b>       | <b>213,560</b> | <b>80.8</b>    | <b>46,864</b> | <b>17.7</b>    | <b>3,798</b>      | <b>1.4</b>     | <b>264,222</b>          | <b>—</b>      |
| <b>1989</b>        |                |                |               |                |                   |                |                         |               |
| Original Equipment | 51,170         | 84.9%          | 8,177         | 13.6%          | 890               | 1.5%           | 60,237                  | 22.7%         |
| Replacement        | 151,156        | 80.0           | 35,172        | 18.6           | 2,664             | 1.4            | 188,992                 | 71.2          |
| Export             | 12,437         | 76.5           | 3,548         | 21.8           | 270               | 1.7            | 16,255                  | 6.1           |
| <b>Total</b>       | <b>214,763</b> | <b>80.9</b>    | <b>46,897</b> | <b>17.7</b>    | <b>3,824</b>      | <b>1.4</b>     | <b>265,484</b>          | <b>—</b>      |

## Replacement Battery Sales Up in 1990

Battery shipments (replacement and original equipment) increased by 2.6% overall in 1990 to a new record of 76,309,000. This follows the slight decline in shipments recorded in 1989. Battery shipments were up both in the replacement market (1.2%) and in original equipment (11.9%). Replacement units accounted for 85.4% of the total market in 1990, down a shade from the previous year. Still, replacement unit sales at a little over 65-million were the best ever reported.

| Year       | Replacements | % of Market | (Ad. 1000)        |             | Total Market | % Change from Previous Year |
|------------|--------------|-------------|-------------------|-------------|--------------|-----------------------------|
|            |              |             | New cars & Trucks | % of Market |              |                             |
| 1990 ..... | 65,187       | 85.4%       | 11,122            | 14.6%       | 76,309       | 2.6%                        |
| 1989 ..... | 64,433       | 86.6        | 9,933             | 13.4        | 74,366       | (0.4)                       |
| 1988 ..... | 63,487       | 85.0        | 11,190            | 15.0        | 74,677       | 5.5                         |
| 1987 ..... | 59,878       | 84.6        | 10,910            | 15.4        | 70,788       | (1.1)                       |
| 1986 ..... | 60,306       | 84.2        | 11,335            | 15.8        | 71,641       | 1.8                         |
| 1985 ..... | 58,684       | 83.4        | 11,649            | 16.6        | 70,333       | —                           |
| 1984 ..... | 59,333       | 84.5        | 10,925            | 15.5        | 70,258       | 5.0                         |
| 1983 ..... | 56,105       | 83.8        | 10,823            | 16.2        | 66,928       | 7.9                         |
| 1982 ..... | 54,214       | 87.4        | 7,819             | 12.6        | 62,033       | 0.8                         |
| 1981 ..... | 53,598       | 87.1        | 7,956             | 12.9        | 61,554       | 6.0                         |
| 1980 ..... | 50,063       | 86.2        | 8,009             | 13.8        | 58,072       | (11.0)                      |
| 1979 ..... | 53,746       | 82.4        | 11,480            | 17.6        | 66,226       | (6.2)                       |
| 1977 ..... | 54,601       | 81.2        | 12,639            | 18.8        | 67,240       | 10.8                        |
| 1975 ..... | 42,582       | 82.5        | 8,985             | 17.6        | 51,567       | (5.3)                       |

Source: Replacement battery figures supplied by Battery Council International. New cars and trucks are U.S. factory sales figures provided by the Motor Vehicle Manufacturers Assn.

## Replacement and OE Batteries

Replacement battery shipments totalled 65.2-million units in 1990, with 12-volt and 6-volt accounting for 87% of the total, according to Battery Council International. Here are highlights from its annual report.

### Replacement batteries:

Passenger cars and light trucks: 12-volt, 50,831,089, or 78.0% of the total; 6-volt, 691,380, or 1.1% of the total.

Heavy duty commercial: 12-volt, 3,916,303, or 6.0% of the total; 6-volt, 953,057, or 1.5% of the total.

### Original Equipment:

Passenger cars and light trucks: 12-volt, 9,949,306, or 89.5% of the total; 6-volt, 23, or 0.000002% of the total.

Heavy duty commercial: 12-volt, 787,038, or 8.8% of the total; 6-volt, 27,846, or 2.5% of the total.

## Car Lubrication Service

### 1991 Crankcase Drain Intervals and Recommended Oil

| Make           | Model        | Normal Service |        | Severe Service |        | Type of Oil |
|----------------|--------------|----------------|--------|----------------|--------|-------------|
|                |              | Miles          | Months | Miles          | Months |             |
| Eagle          | Turbo        | 5,000          | 6      | 3,000          | 3      | SG          |
|                | Others       | 7,500          | 12     | 3,000          | 3      | SF/CC       |
| Chrysler Corp. | Turbo        | 7,500          | 6      | 3,000          | 3      | SG          |
|                | Others       | 7,500          | 6      | 5,000          | 6      | SF/CC       |
| Ford Motor Co. | Supercharged | 5,000          | 6      | 3,000          | 3      | SG          |
|                | Others       | 7,500          | 6      | 3,000          | 3      | SG          |
| General Motors | All          | 7,500          | 12     | 3,000          | 3      | SG          |

Source: Chek-Chart Publications, Simon & Schuster Inc.

### 1991 Automatic Transmission/Transaxle Drain Intervals and Recommended Fluids

| Make           | Fluid          | Normal Service |         | Severe Service |            |
|----------------|----------------|----------------|---------|----------------|------------|
|                |                | Months         | Miles   | Months         | Miles      |
| Eagle          | (a)            | 30             | 30,000  | —              | 15,000 (b) |
|                | Mopar          | —              | —       | —              | —          |
| Chrysler       | ATF-Plus®      | —              | —       | —              | 15,000     |
|                | MERCON®        | —              | —       | —              | 30,000     |
| Ford Motor Co. | Dextron®-II    | —              | 100,000 | —              | 15,000     |
|                | General Motors | —              | —       | —              | —          |

(a) Premier, MERCON®; others, Mopar ATF-Plus®  
(b) Premier only.

### 1991 Chassis Lubrication Intervals (Models with Fittings)

| Make                | Normal Service |        | Severe Service |        | Type                                                   | Part of Specification Number |
|---------------------|----------------|--------|----------------|--------|--------------------------------------------------------|------------------------------|
|                     | Months         | Miles  | Months         | Miles  |                                                        |                              |
| Eagle .....         | —              | —      | —              | —      | —                                                      | —                            |
| Chrysler Corp. .... | 36             | 30,000 | 18             | 15,000 | #2 Barium EP                                           | 4318062                      |
| Ford Motor Co. .... | —              | 15,000 | —              | —      | #2 Lithium EP with polyethylene 8-molybdenum disulfide | M1C75-B                      |
| General Motors..... | 12             | 7,500  | 3              | 3,000  | #1-2 Multipurpose EP                                   | 1050679                      |

Source: Chek-Chart Publications, Simon & Schuster Inc.

# U.S. Refineries, Capacities by Companies

(In descending order as of January 1, 1990)

Important note: This listing includes capacity that is operational and capacity that is idle or shut down. In the latter case, this capacity can be restored to normal within 90 days. The Energy Information Administration says there were 205 operable refineries on January 1, 1990, compared with a total of 204 the preceding year. The crude distillation capacity was 15.6 million b/d, compared to 15.7 million b/d the previous year. For earlier data, see the 1990 NPN Factbook.

| Company                                                    | b/d              | Company                                 | b/d            | Company                                             | b/d            |
|------------------------------------------------------------|------------------|-----------------------------------------|----------------|-----------------------------------------------------|----------------|
| <b>Companies with a capacity of more than 100,000 b/d.</b> |                  |                                         |                |                                                     |                |
| Number of companies: 33.                                   |                  |                                         |                |                                                     |                |
| Total capacity: 13,641,490.                                |                  |                                         |                |                                                     |                |
| <b>Chevron U.S.A., Inc.</b>                                |                  | <b>BP America Inc.</b>                  |                | <b>Ashland Oil Inc.</b>                             |                |
| Port Arthur, Texas .....                                   | 329,000          | <b>BP Oil Corp.</b>                     |                | Catlettsburg, Ky.....                               | 213,400        |
| Pascagoula, Miss. ....                                     | 295,000          | Belle Chasse, La.....                   | 213,640        | St. Paul, Minn.....                                 | 67,100         |
| El Segundo, Calif.....                                     | 286,000          | Marcus Hook, Pa. ....                   | 172,000        | Canton, Ohio.....                                   | 66,000         |
| Richmond, Calif. ....                                      | 270,000          | Lima, Ohio .....                        | 167,500        | <b>Total .....</b>                                  | <b>346,500</b> |
| Philadelphia, Pa. ....                                     | 175,000          | Toledo, Ohio .....                      | 126,100        |                                                     |                |
| Perth Amboy, N.J. ....                                     | 80,000           | Ferndale, Wash. ....                    | 77,400         | <b>Koch Industries Inc.</b>                         |                |
| El Paso, Texas .....                                       | 66,000           | <b>Total .....</b>                      | <b>756,640</b> | <b>Koch Refining Co.</b>                            |                |
| Honolulu, Hawaii .....                                     | 53,000           |                                         |                | St. Paul, Minn.....                                 | 185,000        |
| Salt Lake City, Utah.....                                  | 45,000           | <b>Star Enterprise</b>                  |                | Corpus Christi, Texas.....                          | 125,000        |
| Kenai, Alaska .....                                        | 22,000           | Port Arthur/Neches, Texas               | 250,000        | <b>Total .....</b>                                  | <b>310,000</b> |
| <b>Total.....</b>                                          | <b>1,621,000</b> | Convent, La. ....                       | 225,000        |                                                     |                |
|                                                            |                  | Delaware City, Del. ....                | 140,000        | <b>Phillips 66 Co.</b>                              |                |
| <b>Exxon Co. U.S.A.</b>                                    |                  | <b>Total .....</b>                      | <b>615,000</b> | Sweeny, Texas.....                                  | 175,000        |
| Baytown, Texas .....                                       | 426,000          | <b>U.S. Steel Corp.</b>                 |                | Borger, Texas.....                                  | 105,000        |
| Baton Rouge, La. ....                                      | 421,000          | <b>Marathon Petroleum Co.</b>           |                | Woods Cross, Utah... ..                             | 25,000         |
| Linden, N.J. ....                                          | 130,000          | Garyville, La. ....                     | 255,000        | <b>Total .....</b>                                  | <b>305,000</b> |
| Benicia, Calif. ....                                       | 128,000          | Robinson, Ill. ....                     | 160,000        |                                                     |                |
| Billings, Mont. ....                                       | 42,000           | Texas City, Texas .....                 | 69,500         | <b>Texaco Refining &amp; Marketing Inc.</b>         |                |
| <b>Total.....</b>                                          | <b>1,147,000</b> | Detroit, Mich. ....                     | 68,500         | Anacortes, Wash.....                                | 117,000        |
|                                                            |                  | <b>Rock Island Refining Corp.</b>       |                | El Dorado, Kan.....                                 | 78,000         |
| <b>Shell Oil Co.</b>                                       |                  | Indianapolis, Ind.....                  | 50,000         | Wilmington, Calif. ....                             | 57,000         |
| Wood River, Ill. ....                                      | 274,000          | <b>Total .....</b>                      | <b>603,000</b> | Bakersfield, Calif. ....                            | 48,000         |
| Deer Park, Texas .....                                     | 215,900          |                                         |                | <b>Total .....</b>                                  | <b>300,000</b> |
| Norco, La. ....                                            | 215,000          | <b>Sun Co Inc.</b>                      |                |                                                     |                |
| Martinez, Calif. ....                                      | 140,100          | Marcus Hook, Pa. ....                   | 175,000        | <b>Trans-America Natural Gas Corp. (b)</b>          |                |
| Carson, Calif. ....                                        | 120,000          | Toledo, Ohio .....                      | 125,000        | Norco, La. ....                                     | 300,000        |
| Anacortes, Wash. ....                                      | 55,000           | Tulsa, Okla.....                        | 85,000         | <b>Total .....</b>                                  | <b>300,000</b> |
| Odessa, Texas .....                                        | 28,600           | <b>Sun Refining &amp; Marketing (a)</b> |                |                                                     |                |
| <b>Total.....</b>                                          | <b>1,078,600</b> | Philadelphia, Pa. ....                  | 125,000        | <b>Lyondell Petrochemical Co. (c)</b>               |                |
|                                                            |                  | <b>Total .....</b>                      | <b>510,000</b> | Houston, Texas.....                                 | 290,000        |
| <b>Amoco Oil Co.</b>                                       |                  |                                         |                | <b>Total .....</b>                                  | <b>290,000</b> |
| Texas City, Texas.....                                     | 415,000          | <b>Atlantic Richfield Co.</b>           |                |                                                     |                |
| Whiting, Ind. ....                                         | 350,000          | <b>Arco Petroleum Products Co.</b>      |                | <b>Citgo Petroleum Corp./Petroleos De Venezuela</b> |                |
| Mandan, N.D. ....                                          | 58,000           | Los Angeles, Calif.....                 | 222,000        | <b>Citgo Petroleum Corp.</b>                        |                |
| Yorktown, Va. ....                                         | 53,000           | Ferndale, Wash. ....                    | 167,000        | Lake Charles, La. ....                              | 282,000        |
| Salt Lake City, Utah.....                                  | 40,000           | <b>Arco Alaska Inc.</b>                 |                | <b>Total .....</b>                                  | <b>282,000</b> |
| Casper, Wyo.....                                           | 40,000           | Prudhoe Bay, Alaska .....               | 13,000         |                                                     |                |
| Savannah, Ga. ....                                         | 28,000           | Anchorage, Alaska.....                  | 12,000         | <b>Solomon Inc. (d)</b>                             |                |
| <b>Total.....</b>                                          | <b>984,000</b>   | <b>Total .....</b>                      | <b>414,000</b> | <b>Hill Petroleum Co.</b>                           |                |
|                                                            |                  |                                         |                | Texas City, Texas .....                             | 119,600        |
| <b>Mobil Oil Corp.</b>                                     |                  | <b>E I Du Pont De Nemours &amp; Co.</b> |                | Houston, Texas.....                                 | 66,000         |
| Beaumont, Texas .....                                      | 275,000          | Conoco Inc.                             |                | Krotz Springs, La.....                              | 57,500         |
| Joliet, Ill. ....                                          | 180,000          | Westlake, La. ....                      | 159,500        |                                                     |                |

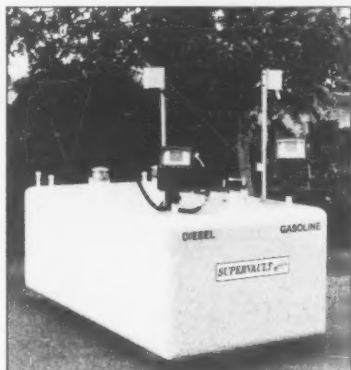


| Company                                              | b/d            | Company                                           | b/d            | Company                              | b/d           |
|------------------------------------------------------|----------------|---------------------------------------------------|----------------|--------------------------------------|---------------|
| St. Rose, La.....                                    | 34,000         | <b>Tosco Corp.</b>                                |                | <b>Vulcan Refining Co.</b>           |               |
| <b>Total.....</b>                                    | <b>277,100</b> | Martinez, Calif.....                              | 131,900        | Cordova, Ala. ....                   | 9,500         |
|                                                      |                | <b>Total.....</b>                                 | <b>131,900</b> | <b>Total.....</b>                    | <b>69,500</b> |
| <b>The Coastal Corp.</b>                             |                | <b>Petroleos De Venezuela</b>                     |                | <b>American Ultramar Ltd.</b>        |               |
| <b>Coastal Eagle Point Oil Co.</b>                   |                | <b>Champlin Refining &amp; Chemicals Inc. (I)</b> |                | <b>Ultramar Refining</b>             |               |
| Westville, N.J.....                                  | 104,500        | Corpus Christi, Texas ....                        | 130,000        | Wilmington, Calif. ....              | 69,000        |
| <b>Coastal Refining &amp; Marketing Inc.</b>         |                | <b>Total.....</b>                                 | <b>130,000</b> | <b>Total.....</b>                    | <b>69,000</b> |
| Corpus Christi, Texas ....                           | 85,000         |                                                   |                |                                      |               |
| <b>Coastal Derby Refining Co. (e)</b>                |                | <b>Sinclair Oil Corp.</b>                         |                | <b>The Coastal Corp./Sinochem</b>    |               |
| El Dorado, Kan. ....                                 | 30,400         | Sinclair, Wyo.....                                | 54,000         | <b>Pacific Refining Co.</b>          |               |
| Wichita, Kan. ....                                   | 28,800         | Tulsa, Okla. ....                                 | 47,000         | Hercules, Calif.....                 | 55,000        |
| <b>Coastal Mobile Refining Co. (f)</b>               |                | <b>Little America Refining Co.</b>                |                | <b>Total.....</b>                    | <b>55,000</b> |
| Chickasaw, Ala. ....                                 | 26,600         | Evansville, Wyo. ....                             | 24,500         |                                      |               |
| <b>Total.....</b>                                    | <b>275,300</b> | <b>Total.....</b>                                 | <b>125,500</b> | <b>Lion Oil Co.</b>                  |               |
|                                                      |                | <b>Horsham Corp.</b>                              |                | El Dorado, Ark.....                  | 48,000        |
| <b>Unocal Corp.</b>                                  |                | <b>Clark Oil &amp; Refining Corp.</b>             |                | <b>Total.....</b>                    | <b>48,000</b> |
| Wilmington, Calif. ....                              | 108,000        | Blue Island, Ill. ....                            | 64,600         | <b>Paramount Acquisition Corp.</b>   |               |
| Rodeo, Calif.....                                    | 73,100         | Hartford, Ill. ....                               | 57,000         | <b>Paramount Petroleum Corp.</b>     |               |
| Arroyo Grande, Calif.....                            | 41,000         | <b>Total.....</b>                                 | <b>121,600</b> | Paramount, Calif. ....               | 46,500        |
| <b>Total.....</b>                                    | <b>222,100</b> |                                                   |                | <b>Total.....</b>                    | <b>46,500</b> |
| <b>Total Petroleum Inc.</b>                          |                | <b>Murphy Oil U.S.A. Inc.</b>                     |                | <b>Placid Refining Co.</b>           |               |
| Ardmore, Okla. ....                                  | 60,500         | Meraux, La. ....                                  | 88,000         | Port Allen, La. ....                 | 46,000        |
| Arkansas City, Kan. ....                             | 56,000         | Superior, Wis. ....                               | 33,000         | <b>Total.....</b>                    | <b>46,000</b> |
| Alma, Mich.....                                      | 45,600         | <b>Total.....</b>                                 | <b>121,000</b> |                                      |               |
| <b>Colorado Refining Co.</b>                         |                |                                                   |                | <b>Holly Corp.</b>                   |               |
| Commerce City, Colo. ....                            | 28,000         | <i>Companies with a capacity of</i>               |                | <b>Navajo Refining Co.</b>           |               |
| <b>Total.....</b>                                    | <b>190,100</b> | <i>30,001 to 100,000 b/d.</i>                     |                | Artesia, N.M. ....                   | 38,000        |
|                                                      |                | <i>Number of companies: 24.</i>                   |                | <b>Montana Refining Co.</b>          |               |
| <b>Fina Oil &amp; Chemical Co.</b>                   |                | <i>Total Capacity: 1,274,920.</i>                 |                | Great Falls, Mont. ....              | 6,700         |
| Port Arthur, Texas ....                              | 110,000        |                                                   |                | <b>Total.....</b>                    | <b>44,700</b> |
| Big Springs, Texas ....                              | 55,000         | <b>Fermland Industries Inc.</b>                   |                | <b>Thrifty Oil Co.</b>               |               |
| <b>Total.....</b>                                    | <b>165,000</b> | Coffeyville, Kan.....                             | 56,500         | <b>Golden West Refining Co.</b>      |               |
|                                                      |                | Phillipsburg, Kan.....                            | 26,400         | Santa Fe Springs, Calif. ..          | 44,700        |
| <b>Mapco Petroleum Inc.</b>                          |                | <b>Total.....</b>                                 | <b>82,900</b>  | <b>Total.....</b>                    | <b>44,700</b> |
| North Pole, Alaska.....                              | 103,850        |                                                   |                | <b>Seaview Petroleum Inc.</b>        |               |
| Memphis, Tenn.....                                   | 60,000         | <b>LL&amp;E Petroleum Marketing Inc.</b>          |                | Paulsboro, N.J. ....                 | 44,400        |
| <b>Total.....</b>                                    | <b>163,850</b> | Saraland, Ala. ....                               | 80,000         | <b>Total.....</b>                    | <b>44,400</b> |
| <b>Diamond Shamrock Refining &amp; Marketing Co.</b> |                | <b>Total.....</b>                                 | <b>80,000</b>  |                                      |               |
| Sunray, Texas ....                                   | 110,000        | <b>Pacific Resources Inc.</b>                     |                | <b>Sargent Holdings Ltd.</b>         |               |
| Three Rivers, Texas ....                             | 51,000         | <b>Hawaiian Independent Refinery Inc.</b>         |                | <b>Powerline Oil Co.</b>             |               |
| <b>Total.....</b>                                    | <b>161,000</b> | Ewa Beach, Hawaii.....                            | 78,500         | Santa Fe Springs, Calif. ..          | 44,000        |
|                                                      |                | <b>Total.....</b>                                 | <b>78,500</b>  | <b>Total.....</b>                    | <b>44,000</b> |
| <b>Kerr-McGee Corp.</b>                              |                | <b>National Cooperative Refinery Assn.</b>        |                | <b>Pride Refining Inc.</b>           |               |
| <b>Southwestern Refining Co. Inc.</b>                |                | McPherson, Kan. ....                              | 75,600         | Abilene, Texas ....                  | 42,750        |
| Corpus Christi, Texas ....                           | 104,000        | <b>Total.....</b>                                 | <b>75,600</b>  | <b>Total.....</b>                    | <b>42,750</b> |
| <b>Kerr-McGee Refining Corp.</b>                     |                |                                                   |                | <b>Cirillo Brothers Oil Co.</b>      |               |
| Wynnewood, Okla. ....                                | 45,000         | <b>Tesoro Petroleum Corp.</b>                     |                | <b>Cibro Petroleum Products Inc.</b> |               |
| Cotton Valley, La. ....                              | 7,800          | Kenai, Alaska.....                                | 72,000         | Albany, N.Y. ....                    | 41,850        |
| <b>Total.....</b>                                    | <b>156,800</b> | <b>Total.....</b>                                 | <b>72,000</b>  | <b>Total.....</b>                    | <b>41,850</b> |
| <b>Uno-Ven Co. (g)</b>                               |                | <b>Pennzoil Products Co.</b>                      |                | <b>Edgington Oil Co.</b>             |               |
| Lemont, Ill.....                                     | 147,000        | Shreveport, La.....                               | 46,200         | Long Beach, Calif. ....              | 41,600        |
| <b>Total.....</b>                                    | <b>147,000</b> | Rouseville, Pa.....                               | 15,700         | <b>Total.....</b>                    | <b>41,600</b> |
| <b>Crown Central Petroleum Corp.</b>                 |                | Roosevelt, Utah ....                              | 8,000          |                                      |               |
| Pasadena, Texas ....                                 | 100,000        | <b>Total.....</b>                                 | <b>69,900</b>  | <b>Conex</b>                         |               |
| <b>La Gloria Oil &amp; Gas Co. (h)</b>               |                | <b>United Refining Co.</b>                        |                | Laurel, Mont. ....                   | 41,450        |
| Tyler, Texas.....                                    | 46,000         | Warren, Pa. ....                                  | 60,000         | <b>Total.....</b>                    | <b>41,450</b> |
| <b>Total.....</b>                                    | <b>146,000</b> |                                                   |                |                                      |               |

| Company                                    | b/d           | Company                                      | b/d           | Company                                   | b/d           |
|--------------------------------------------|---------------|----------------------------------------------|---------------|-------------------------------------------|---------------|
| <b>Frontier Refining Co.</b>               |               | <b>Huntway Refining Co.</b>                  |               | <b>World Oil Co.</b>                      |               |
| Cheyenne, Wyo. ....                        | 38,670        | Benica, Calif. ....                          | 8,600         | <b>Sunland Refining Corp.</b>             |               |
| <b>Total</b> .....                         | <b>38,670</b> | Wilmington, Calif. ....                      | 5,500         | Bakersfield, Calif. ....                  | 12,000        |
|                                            |               | <b>Sunbelt Refining Co. (**)</b>             |               | <b>Total</b> .....                        | <b>12,000</b> |
| <b>Hunt Consolidated Inc.</b>              |               | Collidge, Ariz. ....                         | 9,600         |                                           |               |
| <b>Hunt Refining</b>                       |               | <b>Total</b> .....                           | <b>23,700</b> | <b>Grant Trading Co.</b>                  |               |
| Tuscaloosa, Ala. ....                      | 33,500        |                                              |               | <b>Eco Asphalt Inc. (*)</b>               |               |
| <b>Total</b> .....                         | <b>33,500</b> |                                              |               | Long Beach, Calif. ....                   | 10,550        |
|                                            |               |                                              |               | <b>Total</b> .....                        | <b>10,500</b> |
| <b>Time Oil Co.</b>                        |               | <b>Kern Oil &amp; Refining Co.</b>           |               |                                           |               |
| <b>U.S. Oil &amp; Refining Co.</b>         |               | Bakersfield, Calif. ....                     | 21,400        | <b>Bechtel Investment Inc.</b>            |               |
| Tacoma, Wash. ....                         | 32,400        | <b>Total</b> .....                           | <b>21,400</b> | <b>Petro Source Resources Inc. (m)</b>    |               |
| <b>Total</b> .....                         | <b>32,400</b> |                                              |               | Vicksburg, Miss. ....                     | 6,000         |
|                                            |               |                                              |               | <b>Petro Source Refining Partners (n)</b> |               |
| <b>Gary Williams Co. (k)</b>               |               | <b>Indiana Farm Bureau Cooperative Assn.</b> |               | Tonopah, Nev. ....                        | 4,500         |
| <b>Bloomfield Refining Co.</b>             |               | Mount Vernon, Ind. ....                      | 21,200        | <b>Total</b> .....                        | <b>10,500</b> |
| Bloomfield, N.M. ....                      | 16,800        | <b>Total</b> .....                           | <b>21,200</b> |                                           |               |
| <b>Western Slope Refining Co.</b>          |               |                                              |               |                                           |               |
| Fruita, Colo. ....                         | 15,200        | <b>Leal Petroleum Corp.</b>                  |               |                                           |               |
| <b>Total</b> .....                         | <b>32,000</b> | Nixon, Texas. ....                           | 20,900        |                                           |               |
|                                            |               | <b>Total</b> .....                           | <b>20,900</b> |                                           |               |
| <i>Companies with a capacity of</i>        |               |                                              |               |                                           |               |
| <i>10,001 to 30,000 b/d.</i>               |               | <b>Ergon Inc.</b>                            |               |                                           |               |
| <i>Number of companies: 25.</i>            |               | Vicksburg, Miss. ....                        | 20,600        |                                           |               |
| <i>Total Capacity: 500,305.</i>            |               | <b>Total</b> .....                           | <b>20,600</b> |                                           |               |
|                                            |               |                                              |               |                                           |               |
| <b>Amerada Hess Corp.</b>                  |               | <b>Valero Refining Co.</b>                   |               | <b>Barrett Refining Corp.</b>             |               |
| Purvis, Miss. ....                         | 30,000        | Corpus Christi, Texas ....                   | 20,000        | Thomas, Okla. ....                        | 10,000        |
| <b>Total</b> .....                         | <b>30,000</b> | <b>Total</b> .....                           | <b>20,000</b> |                                           |               |
|                                            |               |                                              |               |                                           |               |
| <b>Pauley Petroleum Inc.</b>               |               | <b>Phoenix Refining Co.</b>                  |               | <b>Endevco Inc.</b>                       |               |
| <b>Fletcher Oil &amp; Refining Co.</b>     |               | St. Mary's, W. Va. ....                      | 19,200        | <b>Dubach Gas Co. (o)</b>                 |               |
| Carson, Calif. ....                        | 29,500        | <b>Total</b> .....                           | <b>19,200</b> | Dubach, La. ....                          | 10,000        |
| <b>Total</b> .....                         | <b>29,500</b> |                                              |               |                                           |               |
|                                            |               | <b>Quaker State Oil Refining Corp.</b>       |               | <b>Sabine Resources Group (*)</b>         |               |
| <b>American International Refinery Co.</b> |               | Newell, W. Va. ....                          | 12,500        | Stonewall, La. ....                       | 10,000        |
| Lake Charles, La. ....                     | 27,000        | Smethport, Pa. ....                          | 6,700         |                                           |               |
| <b>Total</b> .....                         | <b>27,000</b> | <b>Total</b> .....                           | <b>19,200</b> | <b>Witco Corp.</b>                        |               |
|                                            |               |                                              |               | Brandford, Penn. ....                     | 9,915         |
| <b>Petroserve Ltd. Trifinery</b>           |               |                                              |               |                                           |               |
| Corpus Christi, Texas ....                 | 27,000        | <b>Giant Refining Co.</b>                    |               | <b>Gibson Oil &amp; Refining Co. Inc.</b> |               |
| <b>Total</b> .....                         | <b>27,000</b> | Gallup, N.M. ....                            | 19,000        | Bakersfield, Calif. ....                  | 9,600         |
|                                            |               | <b>Total</b> .....                           | <b>19,000</b> |                                           |               |
| <b>El Paso Refining Co. Ltd.</b>           |               |                                              |               | <b>Asphalt Materials</b>                  |               |
| El Paso, Texas ....                        | 25,500        | <b>VGS Corp.</b>                             |               | <b>Laketon Refining Corp.</b>             |               |
| <b>Total</b> .....                         | <b>25,500</b> | <b>Southland Oil Co.</b>                     |               | Laketon, Ind. ....                        | 8,700         |
|                                            |               | Sandersville, Miss. ....                     | 11,000        |                                           |               |
| <b>Crysen Corp.</b>                        |               | Lumberton, Miss. ....                        | 5,800         | <b>Lunday Thagard Co.</b>                 |               |
| <b>Crysen Refining Inc.</b>                |               | <b>Total</b> .....                           | <b>16,800</b> | South Gate, Calif. ....                   | 8,100         |
| Woods Cross, Utah ....                     | 12,500        |                                              |               |                                           |               |
| <b>Sound Refining Inc.</b>                 |               | <b>Chemoli Refining Corp.</b>                |               | <b>Anchor Gasoline Corp.</b>              |               |
| Tacoma, Wash. ....                         | 11,900        | Long Beach, Calif. ....                      | 14,200        | <b>Canal Refining Co.</b>                 |               |
| <b>Total</b> .....                         | <b>24,400</b> | <b>Total</b> .....                           | <b>14,200</b> | Church Point, La. ....                    | 8,000         |
|                                            |               |                                              |               |                                           |               |
| <b>San Joaquin Refining Co. Inc.</b>       |               | <b>Calcasieu Refining Co.</b>                |               | <b>Three B Oil Co.</b>                    |               |
| Bakersfield, Calif. ....                   | 24,300        | Lake Charles, Calif. ....                    | 13,500        | <b>Rattlesnake Refining Corp. (*)</b>     |               |
| <b>Total</b> .....                         | <b>24,300</b> | <b>Total</b> .....                           | <b>13,500</b> | Wickett, Texas. ....                      | 8,000         |
|                                            |               |                                              |               |                                           |               |
| <b>Flying J Petroleum Inc.</b>             |               | <b>Longview Refining Associates (*)</b>      |               | <b>Cialborne Gasoline Co.</b>             |               |
| <b>Big West Oil Co.</b>                    |               | Longview, Texas. ....                        | 13,300        | Lisbon, La. ....                          | 7,500         |
| North Salt Lake, Utah ....                 | 24,000        | <b>Total</b> .....                           | <b>13,300</b> |                                           |               |
| <b>Total</b> .....                         | <b>24,000</b> |                                              |               | <b>Petro Star</b>                         |               |
|                                            |               | <b>Wyoming Refining Co.</b>                  |               | North Pole, Ala. ....                     | 7,000         |
|                                            |               | Newcastle, Wyo. ....                         | 12,555        |                                           |               |
|                                            |               | <b>Total</b> .....                           | <b>12,555</b> | <b>Polo Chemicals Inc. (**)</b>           |               |
|                                            |               |                                              |               | San Leon, Texas. ....                     | 7,000         |

| Company                                                              | b/d   | Company                                                      | b/d   | Company                                                                           | b/d   |
|----------------------------------------------------------------------|-------|--------------------------------------------------------------|-------|-----------------------------------------------------------------------------------|-------|
| <b>Cross Oil &amp; Refining Co. Inc. (p)</b><br>Smackover, Ark. .... | 6,700 | <b>Howell Hydrocarbons Corp.</b><br>San Antonio, Texas ..... | 4,500 | <b>Oil Holdings Inc.</b><br>Tenby Inc.<br>Oxnard, Calif. ....                     | 4,000 |
| <b>Somerset Refinery Inc.</b><br>Somerset, Ky. ....                  | 5,500 | <b>Calumet Refining Co.</b><br>Princeton, La. ....           | 4,207 | <b>Martin Gas Sales Inc.</b><br><b>Berry Petroleum Co.</b><br>Stephens, Ark. .... | 3,700 |
| <b>Young Refining Corp.</b><br>Douglasville, Ga. ....                | 5,079 | <b>Thriftway Co.</b><br>Bloomfield, N.M. ....                | 4,000 | <b>Primary Oil &amp; Energy Corp.</b><br>Chester, Va. ....                        | 3,700 |

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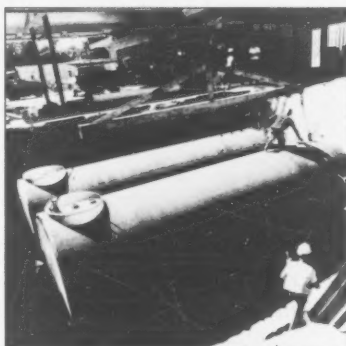
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|                                                                             |       |
|-----------------------------------------------------------------------------|-------|
| <b>B-T Energy Corp.</b><br><b>GNC Energy Corp.</b><br>Greensboro, N.C. .... | 3,000 |
| <b>Crystal Refining Co.</b><br>Carson City, Mich. ....                      | 3,000 |
| <b>Eagle Refining Corp. (*)</b><br>Jackboro, Texas. ....                    | 1,800 |
| <b>Inter-Coastal Energy Services Corp. (q)</b><br>Troy, Ind. ....           | 1,250 |
| <b>Petrolite Corp.</b><br>Kilgore, Texas. ....                              | 1,000 |

#### Footnotes:

- a Formerly Atlantic Refining & Marketing Corp.
- b Formerly GHR Energy Corp.
- c Formerly Atlantic Richfield Co.
- d Formerly Phibro Distributing Corp.
- e Formerly Derby Refining Co.
- f Formerly Belcher Refining Co.
- g Formerly Unocal Corp.
- h Formerly Texas Eastern Corp.
- i Formerly Champlin Refining Co.
- j Formerly Hunt Oil Co.
- k Formerly Gary Energy Corp.
- l Formerly Mid-Atlantic Fuels Inc.
- m Formerly Transcontinental Energy Corp.
- n Formerly Nevada Refining Co.
- o Formerly Endevco Inc.
- p Formerly Cross Oil & Refining of Arkansas.
- q Formerly Kentucky Oil & Refining Co.
- \* Refinery was reactivated during 1989.
- \*\* New refinery became operable during 1989.

Source: Energy Information Administration,  
Petroleum Supply Annual 1989, Vol. 1,  
published May 1990.

# Lubrication Oil and Wax Capacities of U.S. Refineries

(All capacities in 000 b/d) as of Jan. 1, 1991

| Company                                    | Location             | Crude Capacity | Finished Lube Capacity |            |             |            | Total        | Wax Capacity |             |
|--------------------------------------------|----------------------|----------------|------------------------|------------|-------------|------------|--------------|--------------|-------------|
|                                            |                      |                | A                      | B          | C           | D          |              | E            | F           |
| Amoco Oil Co.                              | Casper, Wyo.         | *              |                        |            |             |            | *            |              |             |
| Amoco Oil Co.                              | Whiting, Ind.        | 350.0          | 6.2                    |            |             |            | 6.2          | 0.6          |             |
| Ashland Oil, Inc.                          | Catlettsburg, Ky.    | 205.0          | 8.0                    |            |             |            | 8.0          |              | 2.8         |
| BP America                                 | Lima, Ohio           | *              |                        |            |             |            | *            |              |             |
| Calumet Lubricants Co.                     | Burnham, Ill.        | *              |                        |            |             |            | *            |              |             |
| Calumet Lubricants Co.                     | Princeton, La.       | 4.4            |                        |            |             |            | 4.5          |              |             |
| Chevron U.S.A. Inc.                        | Port Arthur, Tex.    | 315.3          | 6.6                    | 0.1        |             |            | 6.7          |              | 3.8         |
| Chevron U.S.A. Inc.                        | Richmond, Calif.     | 270.0          |                        |            |             |            | 9.4          | 1.2          | 1.0         |
| Cit-Con Oil Corp.                          | Lake Charles, La.    |                | 9.1                    |            |             |            | 9.1          | 0.8          | 0.2         |
| Conoco Inc.                                | Ponca City, Okla.    | **             |                        |            |             |            | **           |              |             |
| Cross Oil and Refining Co., Inc.           | Smackover, Ark.      | 7.0            |                        |            |             |            | 4.0          |              |             |
| Diamond Shamrock, Inc.                     | Three Rivers, Tex.   | 45.0           |                        |            |             |            | 1.4          |              |             |
| Ergon Refining, Inc.                       | Vicksburg, Miss.     | 17.0           |                        |            |             |            | 3.3          |              |             |
| Exxon Co., U.S.A.                          | Baton Rouge, La.     | 421.0          | 16.0                   | 0.5        |             |            | 16.5         | 1.5          |             |
| Exxon Co., U.S.A.                          | Baytown, Tex.        | 426.0          | 18.0                   |            |             | 9.0        | 31.2         |              | 1.8         |
| Lyondell Petrochemical Co.                 | Houston, Tex.        | 260.0          |                        |            |             |            | 7.0          |              | 0.4         |
| Mobil Oil Corp.                            | Beaumont, Tex.       | 275.0          | 10.1                   |            |             |            | 10.1         | 1.6          | 0.3         |
| Mobil Oil Corp.                            | Paulsboro, N.J.      | 100.0          | 7.8                    |            |             |            | 7.8          |              |             |
| Pennzoil Products Co.                      | Rouseville, Pa.      | 15.7           |                        |            |             |            | 6.1          | 0.6          | 0.4         |
| Pennzoil Products Co./Atlas Processing Co. | Shreveport, La.      | 46.2           | 4.5                    |            |             |            | 8.6          | 0.8          |             |
| Petrolite Corp.                            | Barnsdall, Okla.     |                |                        |            |             |            |              | 0.4          |             |
| Petrolite Corp., Bareco Div.               | Kilgore, Tex.        | 1.0            |                        |            |             |            |              |              | 0.3         |
| Petrowax PA ***                            | Emmerton, PA         |                |                        |            |             |            |              | 0.7          |             |
| Petrowax PA ***                            | Bradford, PA         | 6.5            | 1.7                    |            |             |            | 1.7          | 0.4          | 0.5         |
| Quaker State Oil Refining Corp.            | Newell, W.V.         | 10.5           |                        |            |             |            | 3.6          |              | 0.5         |
| San Joaquin Refining Co., Inc.             | Bakersfield, Calif.  | 21.0           |                        |            | 2.4         | 0.5        | 2.9          |              |             |
| Shell Oil Co.                              | Deer Park, Tex.      | 215.9          | 4.5                    |            |             |            | 9.5          | 1.0          |             |
| Shell Oil Co.                              | Martinez, Calif.     | 140.1          |                        |            | 4.0         |            | 4.0          |              |             |
| Shell Oil Co.                              | Wood River, Ill.     | 274.0          | 4.0                    |            |             |            | 4.0          |              |             |
| Star Enterprises                           | Port Arthur, Tex.    | 250.0          | 16.4                   |            |             |            | 16.4         |              | 1.8         |
| Sun Company, Inc.                          | Marcus Hook, Pa.     | 175.0          |                        |            |             | 4.0        | 10.0         |              |             |
| Sun Company, Inc.                          | Tulsa, Okla.         | 85.0           | 7.5                    |            |             |            | 7.5          | 0.8          |             |
| Sun Company, Inc.                          | Yabucoa, Puerto Rico | 85.0           |                        |            |             |            | 9.0          |              | 2.1         |
| Unocal                                     | Rodeo, Calif.        | 77.0           | 4.6                    |            |             |            | 4.6          | 0.7          | 1.3         |
| Witco Chemical Corp.                       | Bradford, Pa.        | 10.0           | 1.6                    | 0.9        |             |            | 2.5          | 0.2          |             |
| Witco Chemical Corp.                       | Oldale, Calif.       | 11.0           |                        |            | 2.9         | 1.5        | 5.3          |              |             |
| <b>Total</b>                               |                      | <b>4119.6</b>  | <b>126.6</b>           | <b>1.5</b> | <b>18.3</b> | <b>6.0</b> | <b>220.9</b> | <b>11.3</b>  | <b>17.2</b> |

| Canadian Refineries Company | Location              | Crude Capacity | Finished Lube Capacity |   |            |   | Total       | Wax Capacity |            |
|-----------------------------|-----------------------|----------------|------------------------|---|------------|---|-------------|--------------|------------|
|                             |                       |                | A                      | B | C          | D |             | E            | F          |
| Esso Petroleum Canada       | Sarnia, Ontario       | 126.0          | 5.7                    |   | 0.6        |   | 6.3         |              | 2.0        |
| Esso Petroleum Canada       | Strathcona, Alberta   | 155.0          |                        |   |            |   | 2.8         |              | 0.7        |
| International Waxes, Ltd.   | Agincourt, Ontario    |                |                        |   |            |   |             | 1.0          |            |
| Petro-Canada Products       | Mississauga, Ontario  | 41.5           |                        |   |            |   | 4.9         |              | 1.0        |
| Shell Canada, Ltd.          | Montreal East, Quebec | 28.0           | 2.7                    |   |            |   | 2.7         |              | 1.3        |
| <b>Total</b>                |                       | <b>350.5</b>   | <b>8.4</b>             |   | <b>0.6</b> |   | <b>16.7</b> | <b>1.0</b>   | <b>5.0</b> |

\* Lube facility shutdown.

\*\* Lube facilities out of service temporarily.

\*\*\* Formerly Quaker State, Petrowax did not forward 1991 capacities. Figures shown reflect 1990 capacities reported by Quaker State.

Definitions: A-Solvent extracted paraffinic lubes; B-Unextracted paraffinic lubes; C-Solvent extracted naphthanic lubes; D-Unextracted unhydrotreated naphthanic lubes; E-Fully refined crude scale and microcrystalline waxes; F-Semi-finished, slack waxes and petrolatums.

Source: National Petroleum Refiners Association, Lubricating Oil and Wax Capacities of U.S. and Canadian Refineries, 1991.

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## U.S. Refineries and Capacities by States

(Crude Oil Capacity on January 1, 1990)

(An asterisk (\*) after a number indicates capacity shut down but capable of being placed in operation within 90 days.)

| Company                                                                      | b/d     | Company                          | b/d       | Company                    | b/d     |
|------------------------------------------------------------------------------|---------|----------------------------------|-----------|----------------------------|---------|
| <b>ALABAMA</b>                                                               |         |                                  |           | <b>COLORADO</b>            |         |
| Coastal Mobile Refining Co.<br>(Formerly Belcher Refining Co.)               |         | Conoco Inc.                      |           | Colorado Refining Co.      |         |
| Chickasaw .....                                                              | 26,600  | Santa Maria .....                | 9,500     | Commerce City .....        | 29,000  |
| Hunt Refining Co.                                                            |         | Eco Asphalt Inc.                 |           | Conoco Inc.                |         |
| Tuscaloosa .....                                                             | 33,500  | Long Beach .....                 | 10,550*   | Commerce City .....        | 48,000  |
| LL&E Petroleum Marketing Inc.                                                |         | Edginton Oil Co. Inc.            |           | Western Slope Refining Co. |         |
| Saraland .....                                                               | 80,000  | Long Beach .....                 | 41,600    | Fruita .....               | 15,200* |
| Vulcan Refining Co.                                                          |         | Exxon Co. U.S.A.                 |           | Total .....                | 76,000  |
| Cordova .....                                                                | 9,500*  | Benicia .....                    | 128,000   |                            | 15,200* |
| Total .....                                                                  | 140,100 | Fletcher Oil & Refining Co.      |           |                            |         |
|                                                                              | 9,500*  | Carson .....                     | 29,500    |                            |         |
| <b>ALASKA</b>                                                                |         | Gilbaon Oil & Refining Co. Inc.  |           |                            |         |
| Arco Alaska Inc.                                                             |         | Bakersfield .....                | 9,600*    |                            |         |
| Anchorage .....                                                              | 12,000  | Golden West Refining Co.         |           |                            |         |
| Prudhoe Bay .....                                                            | 13,000  | Santa Fe Springs .....           | 44,700    |                            |         |
| Chevron U.S.A. Inc.                                                          |         | Huntway Refining Co.             |           |                            |         |
| Kenai .....                                                                  | 22,000  | Benicia .....                    | 8,600     |                            |         |
| Mapco Petroleum Inc.                                                         |         | Wilmington .....                 | 5,500     |                            |         |
| North Pole .....                                                             | 103,850 | Kern Oil & Refining Co.          |           |                            |         |
| Petro Star                                                                   |         | Bakersfield .....                | 21,400    |                            |         |
| North Pole .....                                                             | 7,000   | Lunday Thagard Co.               |           |                            |         |
| Tesoro Petroleum Corp.                                                       |         | South Gate .....                 | 8,100     |                            |         |
| Kenai .....                                                                  | 72,000  | Mobil Oil Corp.                  |           |                            |         |
| Total .....                                                                  | 229,850 | Torrance .....                   | 123,000   |                            |         |
| <b>ARIZONA</b>                                                               |         | Pacific Refining Co. Inc.        |           |                            |         |
| Sunblet Refining Co.                                                         |         | Hercules .....                   | 55,000    |                            |         |
| Coolidge .....                                                               | 9,600   | Paramount Petroleum Corp.        |           |                            |         |
| Total .....                                                                  | 9,600   | Paramount .....                  | 46,500    |                            |         |
| <b>ARKANSAS</b>                                                              |         | Powerline Oil Co.                |           |                            |         |
| Berry Petroleum Co.                                                          |         | Santa Fe Springs .....           | 37,000    |                            |         |
| Stephens .....                                                               | 3,700   |                                  | 7,000*    |                            |         |
| Cross Oil & Refining Co. Inc.<br>(Formerly Cross Oil & Refining<br>Arkansas) |         | San Joaquin Refining Co. Inc.    |           |                            |         |
| Smackover .....                                                              | 6,700   | Bakersfield .....                | 14,300    |                            |         |
| Lion Oil Co.                                                                 |         |                                  | 10,000*   |                            |         |
| El Dorado .....                                                              | 41,000  | Shell Oil Co.                    |           |                            |         |
|                                                                              | 7,000*  | Carson .....                     | 120,000   |                            |         |
| Total .....                                                                  | 51,400  | Martinez .....                   | 140,100   |                            |         |
|                                                                              | 7,000*  | Sunland Refining Corp.           |           |                            |         |
| <b>CALIFORNIA</b>                                                            |         | Bakersfield .....                | 12,000    |                            |         |
| Arco Products Co.                                                            |         | Tenby Inc.                       |           |                            |         |
| Los Angeles .....                                                            | 222,000 | Oxnard .....                     | 4,000     |                            |         |
| Chemoil Refining Corp.                                                       |         | Texaco Refining & Marketing Inc. |           |                            |         |
| Long Beach .....                                                             | 14,200  | Bakersfield .....                | 48,000    |                            |         |
| Chevron U.S.A. Inc.                                                          |         | Wilmington .....                 | 57,000    |                            |         |
| El Segundo .....                                                             | 268,000 | Tosco Corp.                      |           |                            |         |
| Richmond .....                                                               | 270,000 | Martinez .....                   | 131,900   |                            |         |
|                                                                              |         | Ultramar Refining                |           |                            |         |
|                                                                              |         | Wilmington .....                 | 69,000    |                            |         |
|                                                                              |         | Unocal Corp.                     |           |                            |         |
|                                                                              |         | Arroyo Grande .....              | 41,000    |                            |         |
|                                                                              |         | Rodeo .....                      | 73,100    |                            |         |
|                                                                              |         | Wilmington .....                 | 108,000   |                            |         |
|                                                                              |         | Witco Corp.                      |           |                            |         |
|                                                                              |         | Oildale .....                    | 0         |                            |         |
|                                                                              |         | Total .....                      | 2,165,000 |                            |         |
|                                                                              |         |                                  | 37,150*   |                            |         |



| Company                                                                              | b/d     | Company                            | b/d       | Company                                                                 | b/d     |
|--------------------------------------------------------------------------------------|---------|------------------------------------|-----------|-------------------------------------------------------------------------|---------|
| <b>Inter-Coastal Energy Services Corp.</b><br>(Formerly Kentucky Oil & Refining Co.) |         | <b>Mobil Oil Corp.</b>             |           | <b>NEVADA</b>                                                           |         |
| Troy .....                                                                           | 1,250*  | Chalmette .....                    | 160,000   | <b>Petro Source Refining Partners</b><br>(Formerly Nevada Refining Co.) |         |
| <b>Laketon Refining Corp.</b>                                                        |         | <b>Murphy Oil U.S.A. Inc.</b>      |           | Tonopah .....                                                           | 4,500   |
| Laketon .....                                                                        | 8,700   | Meraux .....                       | 76,000    | Total .....                                                             | 4,500   |
| <b>Rock Island Refining Corp.</b>                                                    |         |                                    | 12,000*   | <b>NEW JERSEY</b>                                                       |         |
| Indianapolis .....                                                                   | 50,000  | <b>Pennzoil Products Co.</b>       |           | <b>Amerada Hess Corp.</b>                                               |         |
| Total .....                                                                          | 429,900 | Shreveport .....                   | 46,200    | Port Reading .....                                                      | 0       |
|                                                                                      | 1,250*  | <b>Placid Refining Co.</b>         |           | <b>Chevron U.S.A. Inc.</b>                                              |         |
| <b>KANSAS</b>                                                                        |         | Port Allen .....                   | 46,000    | Perth Amboy .....                                                       | 80,000  |
| <b>Coastal Derby Refining Co.</b><br>(Formerly Derby Refining Co.)                   |         | <b>Sabine Resources Group</b>      |           | <b>Coastal Eagle Point Oil Co.</b>                                      |         |
| Augusta .....                                                                        | 0       | Stonewall .....                    | 10,000*   | Westville .....                                                         | 104,500 |
| El Dorado .....                                                                      | 30,400  | <b>Shell Oil Co.</b>               |           | <b>Exxon Co. U.S.A.</b>                                                 |         |
| Wichita .....                                                                        | 28,800  | Norco .....                        | 215,000   | Linden .....                                                            | 130,000 |
| <b>Farmland Industries Inc.</b>                                                      |         | <b>Star Enterprise</b>             |           | <b>Mobil Oil Corp.</b>                                                  |         |
| Coffeyville .....                                                                    | 56,500  | Convent .....                      | 225,000   | Paulsboro .....                                                         | 100,000 |
| Phillipsburg .....                                                                   | 26,400  | <b>Trans America Refining Co.</b>  |           | <b>Seaview Petroleum Inc.</b>                                           |         |
| <b>National Cooperative Refinery Assn.</b>                                           |         | Norco .....                        | 300,000*  | Paulsboro .....                                                         | 44,400  |
| McPherson .....                                                                      | 75,600  | Total .....                        | 2,241,847 | Total .....                                                             | 458,900 |
| <b>Texaco Refining &amp; Marketing Inc.</b>                                          |         |                                    | 349,000*  | <b>NEW MEXICO</b>                                                       |         |
| El Dorado .....                                                                      | 78,000  | <b>MICHIGAN</b>                    |           | <b>Bloomfield Refining Co.</b>                                          |         |
| <b>Total Petroleum Inc.</b>                                                          |         | <b>Crystal Refining Co.</b>        |           | Bloomfield .....                                                        | 16,800  |
| Arkansas City .....                                                                  | 56,000  | Carson City .....                  | 3,000     | <b>Giant Refining Co.</b>                                               |         |
| Total .....                                                                          | 351,700 | <b>Marathon Petroleum Co.</b>      |           | Gallup .....                                                            | 19,000  |
| <b>KENTUCKY</b>                                                                      |         | Detroit .....                      | 68,500    | <b>Navajo Refining Co.</b>                                              |         |
| <b>Ashland Oil Inc.</b>                                                              |         | Alma .....                         | 45,600    | Artesia .....                                                           | 38,000  |
| Cattlettsburg .....                                                                  | 213,400 | Total .....                        | 117,100   | <b>Thriftway Co.</b>                                                    |         |
| <b>Somerset Refinery Inc.</b>                                                        |         | <b>MINNESOTA</b>                   |           | Bloomfield .....                                                        | 4,000   |
| Somerset .....                                                                       | 5,500   | <b>Ashland Oil Inc.</b>            |           | Total .....                                                             | 77,800  |
| Total .....                                                                          | 218,900 | St. Paul .....                     | 67,100    | <b>NEW YORK</b>                                                         |         |
| <b>LOUISIANA</b>                                                                     |         | <b>Koch Refining Co.</b>           |           | <b>Cibro Petroleum Products Inc.</b>                                    |         |
| <b>American International Refinery Inc.</b>                                          |         | St. Paul .....                     | 185,000   | Albany .....                                                            | 41,850  |
| Lake Charles .....                                                                   | 27,000* | Total .....                        | 252,100   | Total .....                                                             | 41,850  |
| <b>BP Oil Corp.</b>                                                                  |         | <b>MISSISSIPPI</b>                 |           | <b>NORTH CAROLINA</b>                                                   |         |
| Belle Chase .....                                                                    | 213,640 | <b>Amerada Hess Corp.</b>          |           | <b>GNC Energy Corp.</b>                                                 |         |
| <b>Calcasieu Refining Co.</b>                                                        |         | Purvis .....                       | 30,000    | Greensboro .....                                                        | 3,000   |
| Lake Charles .....                                                                   | 13,500  | <b>Chevron U.S.A. Inc.</b>         |           | Total .....                                                             | 3,000   |
| <b>Calumet Refining Co.</b>                                                          |         | Pascagoula .....                   | 295,000   | <b>NORTH DAKOTA</b>                                                     |         |
| Princeton .....                                                                      | 4,207   | <b>Ergon Refining Inc.</b>         |           | <b>Amoco Oil Co.</b>                                                    |         |
| <b>Canal Refining Co.</b>                                                            |         | Vicksburg .....                    | 20,600    | Mandan .....                                                            | 58,000  |
| Church Point .....                                                                   | 8,000   | <b>Petro Source Resources Inc.</b> |           | Total .....                                                             | 58,000  |
| <b>Citgo Petroleum Corp.</b>                                                         |         | Vicksburg .....                    | 6,000     | <b>OHIO</b>                                                             |         |
| Lake Charles .....                                                                   | 282,000 | <b>Southland Oil Co.</b>           |           | <b>Ashland Oil Inc.</b>                                                 |         |
| <b>Clalborne Gasoline Co.</b>                                                        |         | Lumberton .....                    | 5,800     | Canton .....                                                            | 66,000  |
| Lisbon .....                                                                         | 7,500   | Sandersville .....                 | 11,000    | <b>BP Oil Co.</b>                                                       |         |
| <b>Conoco Inc.</b>                                                                   |         | Total .....                        | 368,400   | Lima .....                                                              | 167,500 |
| Westlake .....                                                                       | 159,500 | <b>MONTANA</b>                     |           | Toledo .....                                                            | 126,100 |
| <b>Dubach Gas Co.</b><br>(Formerly Endeavor Inc.)                                    |         | <b>Cenex</b>                       |           | <b>Sun Co. Inc.</b>                                                     |         |
| Dubach .....                                                                         | 10,000  | Laurel .....                       | 41,450    | Toledo .....                                                            | 125,000 |
| <b>Exxon Co. U.S.A.</b>                                                              |         | <b>Conoco Inc.</b>                 |           | Total .....                                                             | 484,600 |
| Baton Rouge .....                                                                    | 421,000 | Billings .....                     | 49,500    | <b>OKLAHOMA</b>                                                         |         |
| <b>Hill Petroleum Co.</b>                                                            |         | <b>Exxon Co. U.S.A.</b>            |           | <b>Barrett Refining Corp.</b>                                           |         |
| Krotz Springs .....                                                                  | 57,500  | Billings .....                     | 42,000    | Thomas .....                                                            | 10,000  |
| St. Rose .....                                                                       | 34,000  | <b>Montana Refining Co.</b>        |           | <b>Conoco Inc.</b>                                                      |         |
| <b>Kerr-McGee Refining Corp.</b>                                                     |         | Great Falls .....                  | 6,700     | Ponca City .....                                                        | 140,000 |
| Cotton Valley .....                                                                  | 7,800   | Total .....                        | 139,650   |                                                                         |         |
| <b>Marathon Petroleum Co.</b>                                                        |         |                                    |           |                                                                         |         |
| Garyville .....                                                                      | 255,000 |                                    |           |                                                                         |         |

| Company                                              | b/d            | Company                               | b/d              | Company                                     | b/d            |
|------------------------------------------------------|----------------|---------------------------------------|------------------|---------------------------------------------|----------------|
| <b>Kerr-McGee Refining Corp.</b>                     |                | Port Arthur .....                     | 110,000          | <b>VIRGINIA</b>                             |                |
| Wynnewood .....                                      | 45,000         | <b>Hill Petroleum Co.</b>             |                  | <b>Amoco Oil Co.</b>                        |                |
| <b>Sinclair Oil Corp.</b>                            |                | Houston .....                         | 66,000           | Yorktown .....                              | 53,000         |
| Tulsa .....                                          | 47,000         | Texas City .....                      | 119,600          | <b>Primary Oil &amp; Energy Corp.</b>       |                |
| <b>Sun Co. Inc.</b>                                  |                | <b>Howell Hydrocarbons Corp.</b>      |                  | Chester .....                               | 3,700          |
| Tulsa .....                                          | 85,000         | San Antonio .....                     | 1,500            | <b>Total</b> .....                          | <b>56,700</b>  |
| <b>Total Petroleum Inc.</b>                          |                |                                       | 3,000*           | <b>WASHINGTON</b>                           |                |
| Ardmore .....                                        | 60,500         | <b>Koch Reflging Co.</b>              |                  | <b>Arco Products Co.</b>                    |                |
| <b>Total</b> .....                                   | <b>387,500</b> | Corpus Christi .....                  | 125,000          | Ferndale .....                              | 167,000        |
| <b>OREGON</b>                                        |                | <b>La Gloria Oil &amp; Gas Co.</b>    |                  | <b>BP Oil Corp.</b>                         |                |
| <b>Chevron U.S.A. Inc.</b>                           |                | Tyler .....                           | 46,000           | Ferndale .....                              | 77,400         |
| Willbridge .....                                     | 0              | <b>Leal Petroleum Corp.</b>           |                  | <b>Chevron U.S.A. Inc.</b>                  |                |
| <b>Total</b> .....                                   | <b>0</b>       | Nixon .....                           | 15,900           | Richmond Beach .....                        | 0              |
| <b>PENNSYLVANIA</b>                                  |                |                                       | 5,000*           | <b>Shell Oil Co.</b>                        |                |
| <b>BP Oil Corp.</b>                                  |                | <b>Longview Refining Associates</b>   |                  | Anacortes .....                             | 85,000         |
| Marcus Hook .....                                    | 172,000        | Longview .....                        | 13,300           | <b>Sound Refining Inc.</b>                  |                |
| <b>Chevron U.S.A. Inc.</b>                           |                | <b>Lyondell Petrochemical Co.</b>     |                  | Tacoma .....                                | 11,900         |
| Philadelphia .....                                   | 175,000        | Houston .....                         | 290,000          | <b>Texaco Refining &amp; Marketing Inc.</b> |                |
| <b>Pennzoli Products Co.</b>                         |                | <b>Marathon Petroleum Co.</b>         |                  | Anacortes .....                             | 117,000        |
| Rouseville .....                                     | 15,700         | Texas City .....                      | 69,500           | <b>U.S. Oil &amp; Refining Co.</b>          |                |
| <b>Quaker State Oil Refining Corp.</b>               |                | <b>Mobil Oil Corp.</b>                |                  | Tacoma .....                                | 32,400         |
| Smethport .....                                      | 6,700          | Beaumont .....                        | 275,000          | <b>Total</b> .....                          | <b>490,700</b> |
| <b>Sun Co. Inc.</b>                                  |                | <b>Petrolite Corp.</b>                |                  | <b>WEST VIRGINIA</b>                        |                |
| Marcus Hook .....                                    | 175,000        | Kilgore .....                         | 1,000            | <b>Phoenix Refining Co.</b>                 |                |
| <b>Sun Refining &amp; Marketing</b>                  |                | <b>Phillips 66 Co.</b>                |                  | (Formerly Mid-Atlantic Fuels Inc.)          |                |
| (Formerly Atlantic Richfield & Marketing Corp.)      |                | Borger .....                          | 105,000          | St. Mary's .....                            | 19,200         |
| Philadelphia .....                                   | 125,000        | Sweeny .....                          | 175,000          | <b>Quaker State Oil Refining Corp.</b>      |                |
| <b>United Refining Co.</b>                           |                | <b>Polo Chemical Inc.</b>             |                  | Newell .....                                | 12,500         |
| Warren .....                                         | 60,000         | San Leon .....                        | 7,000*           | <b>Total</b> .....                          | <b>31,700</b>  |
| <b>Witco Corp.</b>                                   |                | <b>Pride Refining Inc.</b>            |                  | <b>WISCONSIN</b>                            |                |
| Bradford .....                                       | 9,915          | Abilene .....                         | 28,500           | <b>Murphy Oil U.S.A. Inc.</b>               |                |
| <b>Total</b> .....                                   | <b>739,315</b> |                                       | 14,250*          | Superior .....                              | 33,000         |
| <b>TENNESSEE</b>                                     |                | <b>Rattlesnake Refining Corp.</b>     |                  | <b>Total</b> .....                          | <b>33,000</b>  |
| <b>Mapco Petroleum Inc.</b>                          |                | Wickett .....                         | 8,000*           | <b>WYOMING</b>                              |                |
| Memphis .....                                        | 60,000         | <b>Shell Oil Co.</b>                  |                  | <b>Amoco Oil Co.</b>                        |                |
| <b>Total</b> .....                                   | <b>60,000</b>  | Deer Park .....                       | 215,900          | Casper .....                                | 40,000         |
| <b>TEXAS</b>                                         |                | Odessa .....                          | 28,600           | <b>Frontier Refining Co.</b>                |                |
| <b>Amoco Oil Co.</b>                                 |                | <b>South Hampton Refining Co.</b>     |                  | Cheyenne .....                              | 38,670         |
| Texas City .....                                     | 415,000        | Silsbee .....                         | 0                | <b>Little America Refining Co.</b>          |                |
| <b>Champlin Refining &amp; Chemical Inc.</b>         |                | <b>Southwestern Refining Co. Inc.</b> |                  | Evansville .....                            | 24,500         |
| (Formerly Champlin Refining Co.)                     |                | Corpus Christi .....                  | 104,000          | <b>Sinclair Oil Corp.</b>                   |                |
| Corpus Christi .....                                 | 130,000        | <b>Star Enterprise</b>                |                  | Sinclair .....                              | 54,000         |
| <b>Chevron U.S.A. Inc.</b>                           |                | Port Arthur/Port Neches .....         | 225,000          | <b>Wyoming Refining Co.</b>                 |                |
| El Paso .....                                        | 66,000         |                                       | 25,000*          | Newcastle .....                             | 12,555         |
| Port Arthur .....                                    | 329,000        | <b>Trifinery</b>                      |                  | <b>Total</b> .....                          | <b>169,725</b> |
| <b>Coastal Refining &amp; Marketing Inc.</b>         |                | Corpus Christi .....                  | 27,000           | <b>PUERTO RICO</b>                          |                |
| Corpus Christi .....                                 | 85,000         | <b>Valero Refining Co.</b>            |                  | <b>Caribbean Gulf Refining Corp.</b>        |                |
| <b>Crown Central Petroleum Corp.</b>                 |                | Corpus Christi .....                  | 20,000           | San Juan .....                              | 36,000         |
| Pasadena .....                                       | 100,000        | <b>Total</b> .....                    | <b>3,856,100</b> | <b>Phillips Puerto Rico Core Inc.</b>       |                |
| <b>Diamond Shamrock Refining &amp; Marketing Co.</b> |                |                                       | <b>62,250*</b>   | Guayama .....                               | 0              |
| Sunray .....                                         | 110,000        | <b>UTAH</b>                           |                  | <b>Sun Co. Inc.</b>                         |                |
| Three Rivers .....                                   | 51,000         | <b>Amoco Oil Co.</b>                  |                  | Yabucoa .....                               | 85,000         |
| <b>Eagle Refining Corp.</b>                          |                | Salt Lake City .....                  | 40,000           | <b>Total</b> .....                          | <b>121,000</b> |
| Jacksboro .....                                      | 1,800          | <b>Big West Oil Co.</b>               |                  | <b>VIRGIN ISLANDS</b>                       |                |
| <b>El Paso Refining Co. Ltd.</b>                     |                | North Salt Lake .....                 | 24,000           | <b>Amerada Hess Corp.</b>                   |                |
| El Paso .....                                        | 25,500         | <b>Chevron U.S.A. Inc.</b>            |                  | St. Croix .....                             | 520,000        |
| <b>Exxon Co. U.S.A.</b>                              |                | Salt Lake City .....                  | 45,000           | <b>Total</b> .....                          | <b>520,000</b> |
| Baytown .....                                        | 426,000        | <b>Crysen Refining Inc.</b>           |                  |                                             |                |
| <b>Fina Oil &amp; Chemical Co.</b>                   |                | Woods Cross .....                     | 12,500           |                                             |                |
| Big Springs .....                                    | 55,000         | <b>Pennzoli Products Co.</b>          |                  |                                             |                |
|                                                      |                | Roosevelt .....                       | 8,000            |                                             |                |
|                                                      |                | <b>Phillips 66 Co.</b>                |                  |                                             |                |
|                                                      |                | Woods Cross .....                     | 25,000           |                                             |                |
|                                                      |                | <b>Total</b> .....                    | <b>154,500</b>   |                                             |                |

Source: Energy Information Administration, Petroleum Supply Annual 1989, Vol. 1, published May 1990.

## Changes in U.S. Refinery Capacity in 1989

On Jan. 1, 1990, the United States had a total of 205 operable refineries. There were six shutdowns in 1989 and five refineries were reactivated in the U.S. Two new

refineries, Polo Chemical Inc. and Sunbelt Refining Co., were activated during the year. Operable capacity was pegged at 15.6-million b/d, down slightly from 15.7-

billion b/d, the year earlier level. The increase substantiated indications that large losses of previous years have been subdued, if not reversed.

### New Refineries Opened in 1989

| Refinery              | Location        | Total Atmospheric<br>Crude Oil Distillation<br>Capacity (b/d) | Total Downstream<br>Charge Capacity (b/sd) | Date<br>Opened |
|-----------------------|-----------------|---------------------------------------------------------------|--------------------------------------------|----------------|
| Polo Chemical Inc.    | San Leon, Texas | 7,000                                                         |                                            | 12/89          |
| Sunbelt Refining Co.  | Coolidge, Ariz. | 9,600                                                         | 3,000                                      | 11/89          |
| <b>Total U.S./New</b> |                 |                                                               | <b>16,600</b>                              | <b>3,000</b>   |

### Reactivated Refineries in 1989

| Refinery                             | Location           | Total Atmospheric<br>Crude Oil Distillation<br>Capacity (b/d) | Total Downstream<br>Charge Capacity (b/sd) | Date<br>Reactivated |
|--------------------------------------|--------------------|---------------------------------------------------------------|--------------------------------------------|---------------------|
| Eagle Refining Corp.                 | Jacksboro, Texas   | 1,800                                                         | 1,800                                      | 5/89                |
| ECO Asphalt, Inc.                    | Long Beach, Calif. | 10,550                                                        | —                                          | 12/89               |
| Longview Refining Associates         | Longview, Texas    | 13,300                                                        | 13,800                                     | 4/89                |
| Rattlesnake Refining Corp.           | Wickett, Texas     | 8,000                                                         | 10,000                                     | 12/89               |
| Sabine Resources Group               | Stonewall, La.     | 10,000                                                        | —                                          | 12/89               |
| <b>Total U.S./Reactivated</b>        |                    | <b>43,650</b>                                                 | <b>25,600</b>                              |                     |
| Caribbean Gulf Refining Corp.        | San Juan, PR       | 36,000                                                        | 56,300                                     | 11/89               |
| <b>Total Puerto Rico/Reactivated</b> |                    | <b>36,000</b>                                                 | <b>56,300</b>                              |                     |

### Refinery Shutdowns in 1989

| Refinery                       | Location         | Total Atmospheric<br>Crude Oil Distillation<br>Capacity (b/d) | Total Downstream<br>Charge Capacity (b/sd) | Date<br>Shutdown |
|--------------------------------|------------------|---------------------------------------------------------------|--------------------------------------------|------------------|
| City Gas and Transmission Co.  | Wilmington, N.C. | 10,000                                                        | —                                          | 12/89            |
| Conoco, Inc.                   | Egan, La.        | 2,800                                                         | —                                          | 2/89             |
| Donna Refining Partners Ltd.   | Donna, Texas     | 4,750                                                         | —                                          | 12/89            |
| Newhall Refining Co., Inc.     | Newhall, Calif.  | 22,500                                                        | 26,500                                     | 12/89            |
| Unocal Corp.                   | Nederland, Texas | 120,000                                                       | 63,600                                     | 12/89            |
| Warrior Asphalt Refining Corp. | Holt, Ala.       | 4,000                                                         | —                                          | 12/89            |
| <b>Total U.S./Shutdown</b>     |                  | <b>164,050</b>                                                | <b>90,100</b>                              |                  |

### Refinery Sales During 1989

| Former Owner                           | Location           | Total Atmospheric<br>Crude Oil Distillation<br>Capacity (b/d) | New Owner                                                              | Date of<br>Sale |
|----------------------------------------|--------------------|---------------------------------------------------------------|------------------------------------------------------------------------|-----------------|
| Atlantic Refining and<br>Marketing Co. | Philadelphia, Pa.  | 125,000                                                       | Sun Co.                                                                | 9/89            |
| Mid-Atlantic Fuel                      | St. Mary's, W. Va. | 19,200                                                        | Phoenix Refining Co.                                                   | 8/89            |
| Rock Island Refining Corp.             | Indianapolis, Ind. | 50,000                                                        | U.S. Steel Corp.                                                       | 11/89           |
| Texas Eastern Corp.                    | Tyler, Texas       | 45,000                                                        | Crown Central Petroleum                                                | 12/89           |
| La Gloria Oil & Gas Co.                |                    |                                                               |                                                                        |                 |
| Unocal Corp.                           | Lemont, Ill.       | 147,000                                                       | The Uno-Ven Co.,<br>Unocal Corp. (50%)<br>Petroles des Venezuela (50%) | 11/89           |

b/cd=bbl. per calendar day; b/sd=bbl. per stream day.

Source: Energy Information Administration, Petroleum Supply Annual 1989, Vol. 1, published May 1990.

# Refinery Capacity Increases Slightly in 1989

The number of refineries operating in the U.S. increased from 204 as of Jan. 1, 1989, to 205 on Jan. 1, 1990. Two new refineries began operating during 1989 and five refineries were reactivated during the year. New and reactivated refineries added 60,250 b/d to U.S. operable atmospheric crude oil distillation capacity. There were six refinery shutdowns during 1989. These refineries accounted for 164,050 b/d of U.S. operable atmospheric crude oil distillation capacity. The largest refinery shutdown was the Unocal plant at Nederland, Texas, which had atmospheric crude oil distillation capacity of 120,000 b/d and total downstream capacity of 63,600 b/d. The Unocal Nederland site has been operated as a refined products terminal since Jan. 1, 1990.

Operable atmospheric crude oil distillation capacity was 15.6-million b/d as of Jan. 1, 1990, down slightly from the comparable level in 1989. Of this operable capacity, 0.5-million b/d were idle on Jan. 1, 1990. Idle capacity was down 20.8% from the level as of Jan. 1, 1989. Idle

capacity was reduced primarily by the shutdown of the Unocal refinery at Nederland, Texas, and by a change in status of 67,000 b/d of capacity at the Exxon refinery located in Bayton, Texas, from idle on Jan. 1, 1989, to permanently shutdown on Jan. 1, 1990.

The operable refinery utilization rate increased from 84.4% in 1988 to 86.3% during 1989. Higher utilization during 1989 resulted from a 1.4% decrease in average operable atmospheric crude oil distillation capacity and a 0.8% increase in gross inputs (crude and other oils) to atmospheric crude oil distillation units.

Average atmospheric crude oil distillation capacity during 1989 was 15.7-million b/d while gross inputs (crude and other oils) to atmospheric crude oil distillation units averaged 13.6-million b/d.

The operating utilization rate, which reflects refinery utilization if all idle capacity is removed from the operable capacity, was 90.2% during 1989. This was up from the operating utilization rate of 89.8% in 1988.

essentially unchanged at 3.9-million b/d. Catalytic hydrocracking charge capacity grew 3.5% to 1.3-million b/d. Charge capacities for catalytic cracking (fresh feed) and thermal cracking increased 2.2% to 5.4-million b/d, and 1.7% to 2.1-million b/d, respectively. As of Jan. 1, 1990, catalytic hydrotreating charge capacity was 9.5-million b/d, 1.0% above the comparable 1989 level.

Catalytic hydrotreating is a process for removing sulfur and other undesirable constituents from petroleum fractions. The increase in catalytic hydrotreating capacity reflects refining industry preparation for expected stricter environmental regulations which will reduce allowable sulfur levels in distillate fuel oil.

Catalytic hydrotreating capacity is also needed to permit refiners to input high sulfur crude oil in order to control raw materials costs. Vacuum distillation charge capacity, which allows refiners to distill heavy crude oil and residual oils from atmospheric distillation units, increased slightly during 1989. Processing of heavy crude oils results in reduced raw materials costs to refiners.

As of Jan. 1, 1990, charge capacities for most downstream processing units associated with gasoline production increased during 1989. The exception was catalytic reforming capacity, which was

Crude oil receipts at refineries averaged 13.7-million b/d during 1989, 1.3% above the 1988 level. Receipts of foreign crude oil increased for the fourth consecutive year, and the percentage of domestic crude oil received fell from 60.9% to 56.1%. Receipts in foreign crude oil by tanker increased almost 12% in 1989 from the 1988 level.

## Operable Refineries

(As of January 1 of each year)

| Year | No. of refineries | Change from preceding year | Operable capacity | Change from preceding year |
|------|-------------------|----------------------------|-------------------|----------------------------|
| 1990 | 205               | —                          | 15,572            | -83                        |
| 1989 | 204               | -9                         | 15,655            | -251                       |
| 1988 | 213               | -6                         | 15,916            | +350                       |
| 1987 | 219               | +3                         | 15,566            | +107                       |
| 1986 | 216               | -7                         | 15,459            | -200                       |
| 1985 | 223               | -24                        | 15,659            | -478                       |
| 1984 | 247               | -11                        | 16,137            | -722                       |
| 1983 | 258               | -43                        | 16,859            | -1,030                     |
| 1982 | 301               | -23                        | 17,890            | -731                       |
| 1981 | 324               | +5                         | 18,621            | +632                       |
| 1980 | 319               | +8                         | 17,989            | +547                       |

Source: Energy Information Administration, Petroleum Supply Annual 1989, Vol. 1, published May 1990, plus industry sources for supplemental data.

## Inputs and Utilization

(Avg. for calendar year)

| Year | Gross Input | Percent utilized | Percent idle | Excess volume |
|------|-------------|------------------|--------------|---------------|
| 1990 | 13,600      | 86.3%            | 13.7%        | 1,972         |
| 1989 | 13,563      | 86.4             | 13.5         | 2,092         |
| 1988 | 13,447      | 84.4             | 15.6         | 2,459         |
| 1987 | 13,003      | 83.1             | 16.9         | 2,690         |
| 1986 | 12,826      | 83.0             | 17.0         | 2,633         |
| 1985 | 12,165      | 77.6             | 22.6         | 3,494         |
| 1984 | 12,216      | 76.2             | 23.8         | 3,921         |
| 1983 | 11,947      | 71.7             | 28.3         | 4,912         |
| 1982 | 12,172      | 69.8             | 30.2         | 5,718         |
| 1981 | 12,751      | 68.5             | 31.5         | 5,870         |
| 1980 | 13,834      | 76.9             | 23.1         | 4,153         |

Source: Energy Information Administration, Petroleum Supply Annual 1989, Vol. 1, published May 1990, plus industry sources for supplemental data.

## Gross Inputs and Excess Capacity



Source: Energy Information Administration, Annual Energy Review, 1986 (1980-1986), and Petroleum Supply Annual 1989, Vol. 1, published May 1990



# Shell Storage Capacity – 1989 (a)

(Add 000 bbl.)

|                         | Gasoline       |                 |                   |                     | Fuel Oil           |                   | Asphalt and Road Oil | Total (b) Products | Total Crude Oil & Products |
|-------------------------|----------------|-----------------|-------------------|---------------------|--------------------|-------------------|----------------------|--------------------|----------------------------|
|                         | Crude Oil      | Finished Leaded | Finished Unleaded | Blending Components | Middle Distillates | Residual Fuel Oil |                      |                    |                            |
| <b>PAD District 1</b>   |                |                 |                   |                     |                    |                   |                      |                    |                            |
| New Jersey .....        | 9,899          | 273             | 11,125            | 5,642               | 11,762             | 7,195             | 1,912                | 49,666             | 59,565                     |
| Pennsylvania .....      | 10,914         | 399             | 3,985             | 3,555               | 4,369              | 2,447             | 1,700                | 29,299             | 40,213                     |
| Other States (c) .....  | 6,437          | 166             | 4,044             | 2,568               | 9,280              | 4,601             | 1,937                | 27,227             | 33,664                     |
| <b>Total.....</b>       | <b>27,250</b>  | <b>838</b>      | <b>19,154</b>     | <b>11,765</b>       | <b>25,411</b>      | <b>14,243</b>     | <b>5,549</b>         | <b>106,192</b>     | <b>133,442</b>             |
| <b>PAD District 2</b>   |                |                 |                   |                     |                    |                   |                      |                    |                            |
| Illinois .....          | 7,705          | 938             | 5,494             | 5,564               | 5,944              | 1,498             | 1,985                | 38,756             | 46,461                     |
| Indiana .....           | 2,891          | 264             | 2,861             | 3,204               | 3,411              | 1,525             | 1,487                | 21,382             | 24,273                     |
| Kansas .....            | 2,998          | 1,965           | 2,635             | 1,652               | 3,299              | 528               | 1,190                | 20,234             | 23,232                     |
| Ohio .....              | 3,757          | 385             | 2,223             | 2,915               | 1,849              | 448               | 913                  | 14,754             | 18,511                     |
| Oklahoma .....          | 4,043          | 1,349           | 3,009             | 2,432               | 3,513              | 270               | 1,733                | 22,208             | 26,251                     |
| Other States (c) .....  | 6,264          | 866             | 4,632             | 3,730               | 6,330              | 1,824             | 4,959                | 30,611             | 36,875                     |
| <b>Total.....</b>       | <b>27,658</b>  | <b>5,767</b>    | <b>20,854</b>     | <b>19,497</b>       | <b>24,346</b>      | <b>6,093</b>      | <b>12,267</b>        | <b>147,945</b>     | <b>175,603</b>             |
| <b>PAD District 3</b>   |                |                 |                   |                     |                    |                   |                      |                    |                            |
| Alabama .....           | 2,427          | 91              | 580               | 305                 | 1,003              | 700               | 694                  | 5,092              | 7,519                      |
| Arkansas .....          | 2,377          | 55              | 365               | 109                 | 694                | 82                | 635                  | 2,072              | 4,449                      |
| Louisiana .....         | 29,817         | 673             | 8,633             | 11,308              | 14,173             | 7,214             | 1,349                | 88,424             | 118,241                    |
| Mississippi .....       | 5,921          | 360             | 2,535             | 2,072               | 3,031              | 876               | 1,073                | 17,350             | 23,271                     |
| New Mexico .....        | 962            | 199             | 244               | 705                 | 592                | 420               | 378                  | 4,192              | 5,154                      |
| Texas .....             | 57,063         | 3,070           | 26,346            | 21,174              | 25,095             | 11,569            | 2,947                | 209,733            | 266,796                    |
| <b>Total.....</b>       | <b>98,567</b>  | <b>4,448</b>    | <b>38,803</b>     | <b>35,673</b>       | <b>44,588</b>      | <b>20,861</b>     | <b>7,076</b>         | <b>326,863</b>     | <b>425,430</b>             |
| <b>PAD District 4</b>   |                |                 |                   |                     |                    |                   |                      |                    |                            |
| Colorado .....          | 749            | 360             | 449               | 595                 | 535                | 480               | 478                  | 4,013              | 4,762                      |
| Montana .....           | 1,342          | 777             | 527               | 1,803               | 1,247              | 191               | 1,909                | 8,540              | 9,882                      |
| Utah .....              | 1,462          | 428             | 633               | 1,336               | 1,036              | 197               | 576                  | 6,057              | 7,519                      |
| Wyoming .....           | 970            | 692             | 806               | 1,476               | 1,732              | 710               | 1,485                | 8,325              | 9,295                      |
| <b>Total.....</b>       | <b>4,523</b>   | <b>2,257</b>    | <b>2,415</b>      | <b>5,210</b>        | <b>4,550</b>       | <b>1,578</b>      | <b>4,448</b>         | <b>26,935</b>      | <b>31,458</b>              |
| <b>PAD District 5</b>   |                |                 |                   |                     |                    |                   |                      |                    |                            |
| Alaska .....            | 1,132          | 85              | 263               | 291                 | 841                | 1,168             | 90                   | 3,691              | 4,823                      |
| California .....        | 32,449         | 2,897           | 10,285            | 14,893              | 8,836              | 9,131             | 3,056                | 99,121             | 131,570                    |
| Washington .....        | 8,583          | 1,127           | 1,770             | 2,491               | 2,369              | 1,538             | 351                  | 16,661             | 25,244                     |
| Other States (c) .....  | 4,156          | 9               | 228               | 661                 | 551                | 1,473             | 758                  | 5,420              | 9,576                      |
| <b>Total.....</b>       | <b>46,320</b>  | <b>4,118</b>    | <b>12,546</b>     | <b>18,336</b>       | <b>12,597</b>      | <b>13,310</b>     | <b>4,255</b>         | <b>124,893</b>     | <b>171,213</b>             |
| <b>U.S. Total .....</b> | <b>204,318</b> | <b>17,428</b>   | <b>93,772</b>     | <b>90,481</b>       | <b>111,492</b>     | <b>56,085</b>     | <b>33,595</b>        | <b>732,828</b>     | <b>937,146</b>             |

# Working Storage Capacity – 1989 (a)

(Add 000 bbl.)

|                         | Gasoline       |                 |                   |                     | Fuel Oil           |                   | Asphalt and Road Oil | Total (b) Products | Total Crude Oil and Products |
|-------------------------|----------------|-----------------|-------------------|---------------------|--------------------|-------------------|----------------------|--------------------|------------------------------|
|                         | Crude Oil      | Finished Leaded | Finished Unleaded | Blending Components | Middle Distillates | Residual Fuel Oil |                      |                    |                              |
| <b>PAD District 1</b>   |                |                 |                   |                     |                    |                   |                      |                    |                              |
| New Jersey .....        | 8,730          | 269             | 10,099            | 4,331               | 10,887             | 6,710             | 1,683                | 44,511             | 53,241                       |
| Pennsylvania .....      | 9,523          | 342             | 3,489             | 3,108               | 3,904              | 2,164             | 1,501                | 26,238             | 35,761                       |
| Other States (c) .....  | 5,500          | 158             | 3,742             | 2,326               | 8,748              | 4,397             | 1,832                | 24,781             | 30,281                       |
| <b>Total.....</b>       | <b>23,753</b>  | <b>769</b>      | <b>17,330</b>     | <b>9,765</b>        | <b>23,539</b>      | <b>13,271</b>     | <b>5,016</b>         | <b>95,530</b>      | <b>119,283</b>               |
| <b>PAD District 2</b>   |                |                 |                   |                     |                    |                   |                      |                    |                              |
| Illinois .....          | 6,778          | 867             | 4,942             | 4,558               | 5,205              | 1,399             | 1,879                | 34,938             | 41,716                       |
| Indiana .....           | 2,426          | 232             | 2,420             | 2,676               | 3,025              | 1,403             | 1,306                | 18,851             | 21,277                       |
| Kansas .....            | 2,765          | 1,862           | 2,431             | 1,464               | 3,117              | 488               | 1,114                | 18,839             | 21,604                       |
| Ohio .....              | 3,320          | 310             | 1,874             | 2,433               | 1,673              | 342               | 837                  | 12,937             | 16,257                       |
| Oklahoma .....          | 3,503          | 1,180           | 2,711             | 2,290               | 3,213              | 240               | 1,563                | 20,039             | 23,542                       |
| Other States (c) .....  | 5,609          | 759             | 4,153             | 3,446               | 5,897              | 1,698             | 4,557                | 28,178             | 33,787                       |
| <b>Total.....</b>       | <b>24,401</b>  | <b>5,210</b>    | <b>18,531</b>     | <b>16,867</b>       | <b>22,130</b>      | <b>5,570</b>      | <b>11,256</b>        | <b>133,782</b>     | <b>158,163</b>               |
| <b>PAD District 3</b>   |                |                 |                   |                     |                    |                   |                      |                    |                              |
| Alabama .....           | 2,048          | 91              | 580               | 288                 | 877                | 582               | 567                  | 4,349              | 6,397                        |
| Arkansas .....          | 2,103          | 50              | 329               | 98                  | 645                | 74                | 577                  | 1,893              | 3,996                        |
| Louisiana .....         | 23,760         | 554             | 7,091             | 9,077               | 12,162             | 6,106             | 1,136                | 75,122             | 98,882                       |
| Mississippi .....       | 5,244          | 320             | 2,349             | 1,969               | 2,795              | 824               | 907                  | 15,978             | 21,222                       |
| New Mexico .....        | 841            | 160             | 196               | 640                 | 494                | 350               | 368                  | 3,640              | 4,481                        |
| Texas .....             | 48,918         | 2,752           | 23,056            | 18,821              | 22,830             | 10,448            | 2,695                | 186,607            | 235,525                      |
| <b>Total.....</b>       | <b>82,914</b>  | <b>3,927</b>    | <b>33,601</b>     | <b>30,893</b>       | <b>39,803</b>      | <b>18,384</b>     | <b>6,250</b>         | <b>267,589</b>     | <b>370,503</b>               |
| <b>PAD District 4</b>   |                |                 |                   |                     |                    |                   |                      |                    |                              |
| Colorado .....          | 688            | 331             | 414               | 545                 | 508                | 457               | 463                  | 3,762              | 4,450                        |
| Montana .....           | 1,156          | 688             | 460               | 1,605               | 1,150              | 171               | 1,743                | 7,758              | 8,914                        |
| Utah .....              | 1,259          | 376             | 543               | 1,194               | 972                | 181               | 556                  | 5,490              | 6,749                        |
| Wyoming .....           | 915            | 634             | 746               | 1,371               | 1,636              | 689               | 1,449                | 7,850              | 8,765                        |
| <b>Total.....</b>       | <b>4,018</b>   | <b>2,029</b>    | <b>2,163</b>      | <b>4,715</b>        | <b>4,266</b>       | <b>1,498</b>      | <b>4,211</b>         | <b>24,860</b>      | <b>28,876</b>                |
| <b>PAD District 5</b>   |                |                 |                   |                     |                    |                   |                      |                    |                              |
| Alaska .....            | 1,065          | 80              | 248               | 277                 | 802                | 1,119             | 86                   | 3,509              | 4,574                        |
| California .....        | 27,095         | 2,413           | 8,761             | 12,290              | 7,859              | 8,059             | 2,788                | 85,758             | 112,853                      |
| Washington .....        | 7,595          | 1,025           | 1,585             | 2,189               | 2,169              | 1,416             | 339                  | 14,855             | 22,450                       |
| Other States (c) .....  | 3,649          | 8               | 212               | 618                 | 515                | 1,401             | 722                  | 5,096              | 8,745                        |
| <b>Total.....</b>       | <b>39,404</b>  | <b>3,526</b>    | <b>10,806</b>     | <b>15,374</b>       | <b>11,345</b>      | <b>11,995</b>     | <b>3,935</b>         | <b>109,218</b>     | <b>148,622</b>               |
| <b>U.S. Total .....</b> | <b>174,490</b> | <b>15,461</b>   | <b>82,431</b>     | <b>77,614</b>       | <b>101,083</b>     | <b>50,718</b>     | <b>30,668</b>        | <b>650,979</b>     | <b>825,469</b>               |

(a) Shell Storage Capacity—design capacity of the tank; Working Storage Capacity—difference in volume between the maximum safe fill capacity and tank bottom.

(b) All other products include ethane, isobutane, pentanes, plus other hydrocarbons, hydrogen, alcohol, unfinished oils, finished aviation gasoline, special naphthas, wax, petroleum coke, still gas, petrochemical feedstocks and miscellaneous products.

(c) Other states include: Pad District 1: Connecticut, Delaware, Florida, Georgia, Maryland, New York, North Carolina, Virginia, West Virginia; Pad District 2: Kentucky, Michigan, Minnesota, Missouri, North Dakota, Tennessee, Wisconsin; Pad District 3: Arizona, Hawaii, Nevada, Oregon.

Source: Energy Information Administration, Petroleum Supply Annual 1989, Vol. 1, published May 1990.



## Estimated Storage Capacities and Inventory Levels in Petroleum Distribution Systems — 1988 (a)

(Millions of bbl.)

| Capacity                 | Primary      |            |            | Secondary  |           |           | Tertiary   |            |           | Total        |              |           |
|--------------------------|--------------|------------|------------|------------|-----------|-----------|------------|------------|-----------|--------------|--------------|-----------|
|                          | Capacity     | Inventory  | % Used     | Capacity   | Inventory | % Used    | Capacity   | Inventory  | % Used    | Capacity     | Inventory    | % Used    |
| Crude Oil (b)            | 508          | 343        | 66%        | —          | —         | —         | —          | —          | —         | 508          | 342          | 66%       |
| <b>Selected Products</b> |              |            |            |            |           |           |            |            |           |              |              |           |
| Motor Gasoline           | 451          | 231        | 51         | 92         | 48        | 52        | 109        | 63         | 58        | 652          | 342          | 52        |
| Kero - Jet Fuel          | 82           | 40         | 49         | —          | —         | —         | 22         | 11         | 50        | 104          | 51           | 49        |
| Distillates              | 261          | 89         | 34         | 37         | 15        | 41        | 255        | 113        | 44        | 553          | 217          | 39        |
| Residual                 | 117          | 44         | 38         | 4          | 2         | 50        | 185        | 60         | 32        | 306          | 106          | 35        |
| <b>Total</b>             | <b>911</b>   | <b>404</b> | <b>44</b>  | <b>133</b> | <b>65</b> | <b>58</b> | <b>571</b> | <b>247</b> | <b>43</b> | <b>1,615</b> | <b>716</b>   | <b>44</b> |
| <b>Grand Total</b>       | <b>1,419</b> | <b>747</b> | <b>508</b> | <b>133</b> | <b>65</b> | <b>49</b> | <b>571</b> | <b>247</b> | <b>43</b> | <b>2,123</b> | <b>1,059</b> | <b>66</b> |

(a) As of March 3, 1988, when this survey was completed. Survey includes only selected products.

(b) Survey excludes SPR and 10.6-million bbl. of lease stocks.

## Storage Capacities, Inventories Down, But Not Much

On an irregular basis, the National Petroleum Council has been providing the federal government and the petroleum industry with studies and estimates of shell storage capacities and basic inventories in the primary, secondary and tertiary distribution systems.

The latest one, based on a 1988 study, was published in April 1989. This one, as did the others dating back to 1948, pretty well confirmed what the industry has long known: that shell capacities of storage tanks are relatively static while inventories bounce up and down depending on the product, i.e., gasoline, and the season (winter vs. summer). Home heating oil inventories, for example, may be near peaks in the fall and be just the reverse in early summer, at the end of the heating season.

This and other studies confirm the flexibility of the systems and their inventories. Over the long haul, for example, data show that the industry generally has about twice as much shell

capacity as it normally uses.

Here's what prior surveys show:

| Date of NPC Survey | Inventories as a % of Tank Capacities |
|--------------------|---------------------------------------|
| March 1948         | 42%                                   |
| June 1950          | 45                                    |
| March 1952         | 45                                    |
| March 1954         | 48                                    |
| March 1957         | 45                                    |
| Sept. 1962         | 50                                    |
| Sept. 1969         | 53                                    |
| Sept. 1973         | 48                                    |
| Sept. 1978         | 48                                    |
| March 1983         | 40                                    |
| March 1988         | 41                                    |

In its studies, NPC uses primary, secondary and tertiary levels of storage and inventories. Primary storage is the over-all perspective that includes crude oil and key products, such as gasoline, diesel, distillates and heavier oils; essentially what it takes to make the system operate.

Secondary distribution takes into con-

sideration the additional facilities needed to link the primary system to the consumers. It is broken down into two key areas: bulk plants and retail gasoline outlets.

Bulk plants, of which there were 15,000 in 1988 compared with 18,000 in 1983, are the storage facilities that have a total storage capacity of less than 50,000 bbl. and do not receive product deliveries via barge, ship or pipeline. Retail motor fuel outlets are defined as facilities that dispense motor fuel to end-users, including service stations, truckstops and convenience stores. In its 1988 study, NPC used an estimate of 170,000 for its base figure in this category. NPC said this category had a storage capacity of 83-million bbl. with inventories of about 44-million bbl.

The tertiary storage segment was considered to be the ultimate consumer, i.e. agriculture, government, transportation.

Shell capacities and inventories for all three distribution segments are detailed in the various tables in this report.

## Shell Capacity Principal Products, 1984 — 1990

(Thousands of bbl.)

| Year | Gasoline |        |          |         | Distillates | Residual |
|------|----------|--------|----------|---------|-------------|----------|
|      | Crude    | Leaded | Unleaded | Total   |             |          |
| 1984 | 207,460  | 51,244 | 59,146   | 110,440 | 19,169      | 64,260   |
| 1985 | 207,440  | 54,929 | 69,393   | 124,322 | 120,800     | 66,065   |
| 1986 | 205,524  | 42,594 | 73,878   | 116,472 | 115,452     | 61,395   |
| 1987 | 215,055  | 35,550 | 74,911   | 110,461 | 107,722     | 62,260   |
| 1988 | 204,208  | 29,331 | 83,530   | 112,861 | 114,767     | 57,053   |
| 1989 | 204,318  | 17,428 | 93,772   | 111,200 | 111,492     | 56,081   |
| 1990 | N/A      | N/A    | N/A      | N/A     | N/A         | N/A      |

Sources: Energy Information Administration, Petroleum Supply Annual, 1984-1989, and National Petroleum Council, Petroleum Inventories and Storage, Vol. 4, published April 1989.

## Primary Shell Capacity of Tankage in Operation or Under Construction

(Millions of bbl.)

|                 | In Operation or<br>Under Construction |              | Idle But<br>Available* | Total<br>3/31/88 | % Change<br>1988 vs. 1983 |
|-----------------|---------------------------------------|--------------|------------------------|------------------|---------------------------|
|                 | 3/31/88                               | 3/31/83      |                        |                  |                           |
| Crude Oil       | 508                                   | 509          | 18                     | 526              | 3.3%                      |
| Motor Gasoline  | 452                                   | 459          | 17                     | 469              | 2.2                       |
| Kero - Jet Fuel | 82                                    | 68           | 4                      | 86               | 26.5                      |
| Distillates     | 261                                   | 296          | 19                     | 280              | (5.4)                     |
| Residual        | 117                                   | 147          | 7                      | 124              | (15.6)                    |
| <b>Total</b>    | <b>1,420</b>                          | <b>1,479</b> | <b>65</b>              | <b>1,485</b>     | <b>(0.4)</b>              |

\*Idle but reactivated within 90 days.

## Secondary Shell Capacity and Inventories, 1988 vs. 1983

(Millions of bbl.)

|                    | Capacity   |            |               | Inventory |           |             |
|--------------------|------------|------------|---------------|-----------|-----------|-------------|
|                    | 1988       | 1983       | % Change      | 1988      | 1983      | % Change    |
| Motor Gasoline     | 92         | 101        | (8.9%)        | 48        | 35        | 37.1%       |
| Diesel/Distillates | 37         | 42         | (11.9)        | 15        | 10        | 50.0        |
| Residual           | 4          | 6          | (33.3)        | 2         | 2         | 0.0         |
| <b>Total*</b>      | <b>133</b> | <b>149</b> | <b>(10.9)</b> | <b>66</b> | <b>47</b> | <b>40.4</b> |

### Retail Motor Fuel Outlets

|                    | Capacity  |           |              | Inventory |           |             |
|--------------------|-----------|-----------|--------------|-----------|-----------|-------------|
|                    | 1988      | 1983      | % Change     | 1988      | 1983      | % Change    |
| Motor Gasoline     | 75        | 79        | (5.1%)       | 40        | 26        | 53.8%       |
| Diesel/Distillates | 8         | 5         | 60.0         | 4         | 2         | 100.0       |
| <b>Total*</b>      | <b>83</b> | <b>84</b> | <b>(1.1)</b> | <b>44</b> | <b>28</b> | <b>57.1</b> |

### Bulk Plants

|                    | Capacity  |           |               | Inventory |           |             |
|--------------------|-----------|-----------|---------------|-----------|-----------|-------------|
|                    | 1988      | 1983      | % Change      | 1988      | 1983      | % Change    |
| Motor Gasoline     | 17        | 22        | (22.7%)       | 8         | 9         | (11.1%)     |
| Diesel/Distillates | 29        | 37        | (21.6)        | 11        | 8         | 37.5        |
| Residual           | 4         | 6         | (33.3)        | 2         | 2         | 0.0         |
| <b>Total*</b>      | <b>50</b> | <b>65</b> | <b>(23.1)</b> | <b>22</b> | <b>19</b> | <b>15.8</b> |

## Tertiary Shell Capacity in Tertiary Storage and Inventory

(Millions of bbl.)

|                     | Capacity   |            |               | Inventory  |            |              |
|---------------------|------------|------------|---------------|------------|------------|--------------|
|                     | 1988       | 1983       | % Change      | 1988       | 1983       | % Change     |
| <b>Sector</b>       |            |            |               |            |            |              |
| Agriculture         | 40         | 41         | (2.4%)        | 14         | 14         | 0.0          |
| Commercial          | 33         | 37         | (12.1)        | 7          | 8          | (12.5)       |
| Electric Utilities  | 175        | 213        | (17.8)        | 61         | 91         | (33.0)       |
| Industrial          | 52         | 61         | (14.8)        | 10         | 17         | (41.2)       |
| Military/Government | 48         | 56         | (14.3)        | 18         | 23         | (21.7)       |
| Residual            | 79         | 100        | (21.0)        | 50         | 55         | (9.1)        |
| Transportation      | 144        | 134        | 7.5           | 87         | 61         | 42.6         |
| <b>Total*</b>       | <b>571</b> | <b>642</b> | <b>(11.1)</b> | <b>247</b> | <b>269</b> | <b>(8.2)</b> |
| <b>Product</b>      |            |            |               |            |            |              |
| Motor Gasoline      | 109        | 103        | 5.8           | 63         | 42         | 33.3         |
| Diesel/Distillate   | 255        | 282        | (9.6)         | 113        | 131        | (13.7)       |
| Kero - Jet Fuel     | 22         | 21         | 4.8           | 11         | 11         | 0.0          |
| Residual            | 185        | 237        | (21.9)        | 60         | 86         | (30.2)       |
| <b>Total*</b>       | <b>571</b> | <b>642</b> | <b>(11.1)</b> | <b>247</b> | <b>269</b> | <b>18.2</b>  |

\*Surveyed products only.

Source: National Petroleum Council, Petroleum Inventories and Storage, Vol. 4, published April 1989.

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July 1991

\$7.00

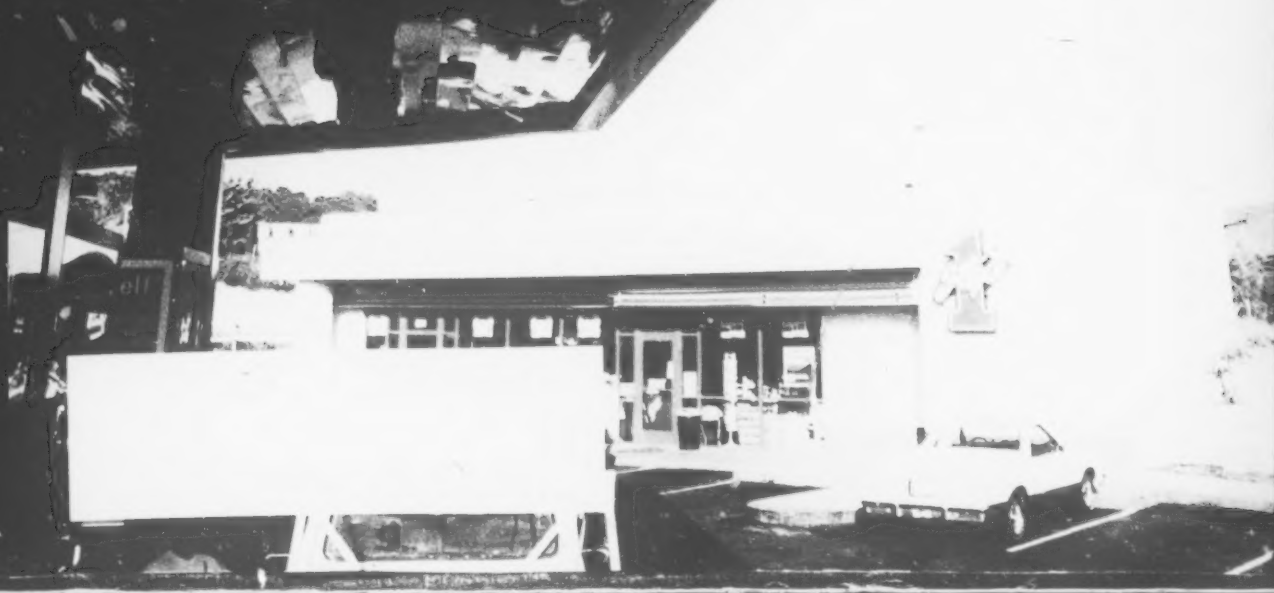
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**Majors Reshape Memphis in Their Own Image**  
**Dealer and ICA Challenge 'Free' Car Wash**

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*National Petroleum News*

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## Editor's Viewpoint

Is a "free" car wash legitimately free when it's offered 365 days a year? Full-serve car wash operators say no and oil companies who offer them at no charge with a fill up say yes. So who's right? If you interpret the Federal Trade Commission (FTC) guidelines literally, oil companies and others who offer free car washes daily violate the FTC law at least six months out of the year.

The FTC defines the frequency of offers as follows: "So that a 'Free' offer will be special and meaningful, a single size of a product or a single kind of service should not be advertised with a 'Free' offer in a trade area for more than six months in any 12-month period. At least 30 days should elapse before another such offer is promoted in the same trade area. No more than three such offers should be made in the same area in any 12-month period. In such period, the offerer's sales of the product in the size promoted with a 'Free' offer should not exceed 50% of the total volume of his sales of the product, in the same size, in the area."

So what does this mean? According to Bob Arnold, a Shell dealer who operates a self-serve gasoline/car wash facility in Metairie, La., free car washes represent an "illegal and unfair" competitive practice. Arnold has been so angry about his declining business that he filed a complaint with the Dallas regional office of the FTC. In addition, he has lodged a similar complaint with the attorney general's office of the state of Louisiana. To top it all off he has enlisted the support of the International Car Wash Assn. (ICA), which is launching an all-out war against free car washes. Arnold and the ICA contend that free car wash programs at many service stations violate the FTC's guidelines. In Arnold's complaint, he states, "The violations represent an illegal and unfair method of competition because the car wash is given free 365 days/yr. and the total of free washes make up at least 90% of the total cars washed."

To back up his complaint, Arnold found an obscure provision in a FTC document published 20 years ago. To read the complete details on this issue see page 18.

According to this dealer, the proliferation of free car washes has unfairly damaged his own business in recent years and he is entitled to some remuneration. Arnold's protest doesn't stop there. He has also petitioned the Louisiana Dept. of Revenue to clarify whether state sales taxes are due on free car washes. According to Arnold, the tax regulators have two options: collect back taxes from the free car wash operators or refund the taxes he has been paying. If this little tidbit is true, there are dozens of companies who could be paying a lot of taxes during the next few years.

A Shell dealer for 13 years, Arnold says he has nothing to lose in challenging his competitors' free car wash programs. "If they drive me out, I'll go out with a bang." He adds, "I never thought going broke would be so much fun."

Maybe the lesson here isn't necessarily be careful about violating obscure laws. Rather, suppliers should listen to their dealers and marketers a little more seriously.

—Peggy Smedley

NPN—National Petroleum News (ISSN 0149-5267) is published monthly (except semi-monthly in June) by Hunter Publishing Limited Partnership, 950 Lee Street, Des Plaines, Illinois 60016. (708) 296-0770.

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Second class postage paid at Des Plaines, Illinois and additional mailing offices.

Subscriptions are solicited only from executive, management and supervisory personnel at the supplier and wholesale level of oil marketing, engaged in the distribution, merchandising, transportation and storage of petroleum, TBA products, and convenience store items. Position, company and segment of industry must be indicated on subscription orders.



Basic subscription rates for one year to individuals in the petroleum marketing industry are: U.S. \$60; Canada \$69 (U.S. \$); Foreign surface mail \$75 (U.S. \$); Foreign airmail \$110 (U.S. \$). Non-industry personnel rates for one year are: U.S. \$75; Canada \$84 (U.S. \$); Foreign surface mail \$90 (U.S. \$); Foreign airmail \$134 (U.S. \$); Single copy price: U.S. & Canada \$9.00 (includes first class postage); Foreign \$11.00 (includes airmail postage). Mid-June Factbook: U.S. \$50; Canada \$60; Foreign \$70. The publisher reserves the right to accept or reject any subscription. (R) Title registered in U.S. patent office. Change of address: Notices should be sent promptly; provide old mailing label as well as new address; include ZIP or postal code. Allow 6-8 weeks for change. Send address changes, correspondence regarding subscription service or subscription orders to: Circulation Department, NATIONAL PETROLEUM NEWS, 950 Lee Street, Des Plaines, Illinois 60016. Or call (708) 296-0770, 9 a.m. to 4 p.m.

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Several leading design consultants share their expertise on balancing the C-store and gasoline aspects of the petroleum marketing business.

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Louisiana marketer Bennie J. Evans Jr. used touch-tone telephone technology to come up with an innovative and inexpensive leak detection system.

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Heavy investment and fierce competition have transformed the Memphis market from a haven for independents into a stronghold for the majors.

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## ● TRENDS

### For Fuel Oil Dealers, Fixed Price Deals are Hot Stuff

Guaranteed price deals seem to be catching on in the home-heating oil business. In a couple of years they may be considered one of the more significant marketing strategies of the '90s. Conceivably, it could halt the marketplace erosion that has been going on for years.

There was a lot of talk about guaranteed price deals at the Atlantic City meeting of the New Jersey Fuel Merchants Assn. (FMA) recently. (See story on p23.)

Most of it centered around the futures market and hedging strategies, however. The problem here is that a marketer can get killed in a hurry unless he or someone on the staff is a specialist in the futures market—and a lucky one at that. Even that's no guarantee.

As one veteran fuel oil marketer explains, "Don't forget there are always winners and losers in any and all dicey-type games. For just about every winner, there's a loser. It's just constant watch out, that's all." He notes that only recently Amerada Hess Corp.'s usually untalkative president, Leon Hess, concedes that his company had won more than \$200-million in futures market dabbling in the last quarter of 1990. Now, he adds, he has a staff of 12 or more executives playing the futures game for his company.

One of the companies that was discussed in Atlantic City was RegionOil of Dover, N.J. This company does play around with the futures market, but as a secondary, not a primary hedge.

Its prime advantage is that it has exceptional storage space, something like 4.5-million gal. In the summer, when few people really give a hoot about the winter months and the cost of keeping warm, RegionOil offers its customers a fixed price contract. Last winter, for example, the fixed price was 89¢/gal., less 2¢ discount. Last summer, distillate bottomed out around 82¢/gal. retail. In the winter months it rose as high as \$1.30/gal. Obviously fixed-price customers got a real bargain in their purchases.

The fixed price for the winter is based on summertime lows for distillates and a bit of in-house hedging on what things might be like come winter's cold, plus all that storage that's available.

RegionOil buys the fuel oil for its contract customers in July or August and simply stores it with its own fuels.

The point here is that the customer owns the oil and will pay, or will have already paid for it, long before wintertime's frigid blasts come along. This improves the cash flow at a time when most companies are in a holding pattern. Also, the fuel oil is liquid oil too, not the paper barrels that dominate the futures market play.

In September, or October, or whenever, RegionOil delivers the fuel oil to the customer's home. The only real requirement here is that drops must be at least 150 gal.

Customers can prebuy amounts such as 500 gal. or 1,000 gal. or whatever.

Once the contracted supply has been depleted, the customer is switched over to normal purchases and going marketplace prices. No matter what they are, high or low, the customer is pretty well locked in for the balance of the heating season.

Says one marketer: "I'd rather wind up the year with a satisfied customer than a scratchy one, especially if he had been scalded by cold weather price spikes. They're the ones who listen to the lullabies of the gas companies."

RegionOil has been using a guaranteed price plan for the past several years. It started off slowly but close to 20% of its 17,000 customers are participating now.

Among the others talked about in Atlantic City two months or so ago were J.W. Pierson Co.; East Orange, N.J.; Devine Brothers, Norwalk, Conn.; and Context Fuel, Sparta, N.J. Each had its own version of offering guaranteed prices to its customers. FMA can be counted on to provide either texts or summaries to interested fuel oil jobbers.

RegionOil's president is Otto Obermeier. An innovative chap, he has always been responsive to inquiries from other jobbers. Give him a try if the RegionOil concept sounds interesting.

—J. Richard Shaner

## ● MARKETPLACE AT A GLANCE

### AVERAGE GASOLINE PRICES IN THE U.S. (per gal.)

|                | Gasoline<br>(All types) | Leaded<br>Regular | Unleaded<br>Regular | Unleaded<br>Premium |
|----------------|-------------------------|-------------------|---------------------|---------------------|
| <b>APRIL</b>   |                         |                   |                     |                     |
| U.S. City Avg. | \$1.159                 | \$1.062           | \$1.104             | \$1.281             |
| <b>Regions</b> |                         |                   |                     |                     |
| Northeast      | 1.233                   | 1.319             | 1.159               | 1.356               |
| North Central  | 1.175                   | 1.163             | 1.135               | 1.294               |
| South          | 1.144                   | 1.121             | 1.074               | 1.252               |
| West           | 1.090                   | 1.020             | 1.052               | 1.229               |

Source: U.S. Dept. of Labor, Bureau of Labor Statistics.

### STOCKS (Add 000 bbl.)

|                      | 5/30/91 | 6/1/90  |
|----------------------|---------|---------|
| Gasoline (Total)     | 213,174 | 216,545 |
| Gasoline (Unleaded)* | 168,140 | 165,661 |
| Jet Kerosine         | 40,725  | 42,153  |
| Distillates          | 107,370 | 104,010 |
| Residual             | 44,053  | 45,946  |

\*Included in gasoline total.

Source: American Petroleum Institute.

# NOTE

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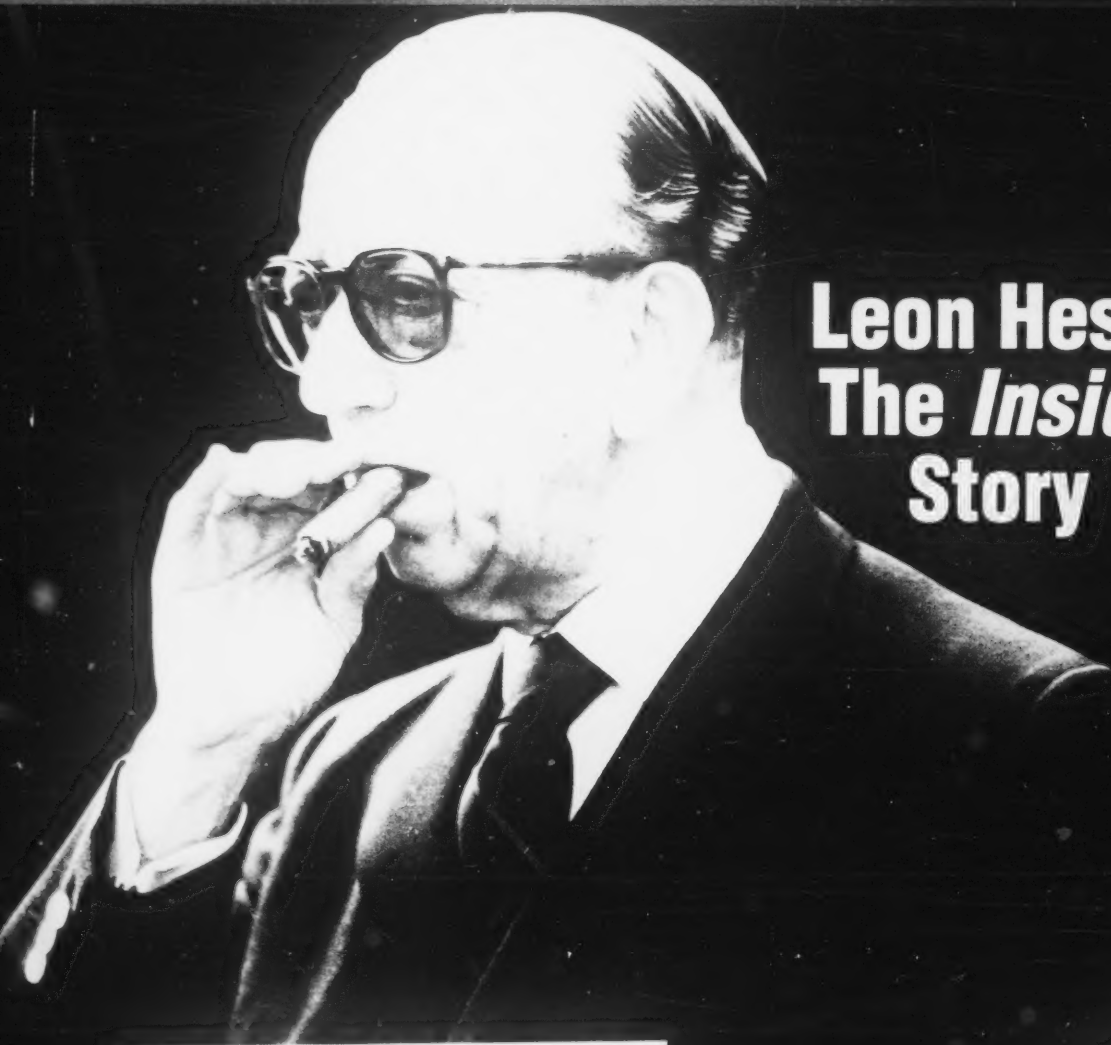
August 1991

\$7.00

**The Software Puzzle: Designing the Big Picture  
Senator and Co. Discover Car Wash Money-maker  
Is Pennzoil on the Verge of Restructuring?**

**NPN**

*National Petroleum News*



**Leon Hess:  
The *Inside*  
Story**

**Stage II  
Handbook**

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## Editor's Viewpoint

During the past couple of months, I've been playing a word association game in conversations I've had with some of our readers. I'd say a word and ask them to say the first thing that came to their minds.

Let's try it with you. I'll throw out a word and you think of the first word or phrase that pops into your mind. Try "Stage II." Now, I can't look into your mind, but I'll bet your immediate reaction is the same I've heard when using that term with others, comments like: "vapor recovery," "cumbersome," "costly," "protects the environment," "a fact of life," "useless," etc. I've even heard a few expletives. Regardless of what your opinions are, Stage II vapor recovery controls are quickly becoming a reality for most of you.

Those of you who haven't taken Stage II seriously might want to take heed. Stage II is coming and the real issue is how you can adapt and make the transition as painlessly and inexpensively as possible. And don't count on the Environmental Protection Agency mandating onboard canisters as an alternative, because some states are still requiring the installation of vapor recovery controls.

If you're like marketers who are already using the equipment, you probably think Stage II is a pain in the neck. However, the good news is that many of those marketers have successfully managed to contain costs and implement successful operating and maintenance procedures. In addition, continuing improvements in the technology by equipment suppliers is easing the transition.

Making the switch to vapor recovery doesn't have to be overly tedious or frustrating. As one motorist told me, "I'll admit in the beginning it was a real pain, but now I don't even realize the difference. It just takes getting use to it." I think her comments pretty much sum up the feelings of many motorists.

"Getting used to it" is a pretty sensible course of action. This is why we have put together the comprehensive Stage II pullout handbook that begins after page 36. The reference guide outlines tips you can use for meeting state and federal regulations. It also highlights those innovative marketers who have learned to cope with the equipment. These trailblazing marketers are discovering unique ways to reduce maintenance costs and extend the life of their Stage II hardware.

As one former Midwest dealer notes, the best approach to help your customers is to get out on the islands and show them how to use the new hardware. He recommends giving your customers a candy bar or some other item as a "reward" for their patience. He stresses taking a positive approach and explain how the government has mandated the nozzles to protect the environment.

Let's face it, you might not be enamored with the regs, but it's the law. Maybe we at NPN can help you make the transition as headache-free as possible.

—Peggy Smedley

NPN—National Petroleum News (ISSN 0149-5267) is published monthly (except semi-monthly in June) by Hunter Publishing Limited Partnership, 950 Lee Street, Des Plaines, Illinois 60016. (708) 296-0770.

© NPN—National Petroleum News

Second class postage paid at Des Plaines, Illinois and additional mailing offices.

Subscriptions are solicited only from executive, management and supervisory personnel at the supplier and wholesale level of oil marketing, engaged in the distribution, merchandising, transportation and storage of petroleum, TBA products, and convenience store items. Position, company and segment of industry must be indicated on subscription orders.



Basic subscription rates for one year to individuals in the petroleum marketing industry are: U.S. \$60; Canada \$69 (U.S. \$); Foreign surface mail \$75 (U.S. \$); Foreign airmail \$110 (U.S. \$). Non-industry personnel rates for one year are: U.S. \$75; Canada \$84 (U.S. \$); Foreign surface mail \$90 (U.S. \$); Foreign airmail \$134 (U.S. \$). Single copy price: U.S. & Canada \$9.00 (includes first class postage). Foreign \$11.00 (includes airmail postage). Mid-June Factbook: U.S. \$50; Canada \$60; Foreign \$70. The publisher reserves the right to accept or reject any subscription. (R) Title registered in U.S. patent office. Change of address: Notices should be sent promptly; provide old mailing label as well as new address; include ZIP or postal code. Allow 6-8 weeks for change. Send address changes, correspondence regarding subscription service or subscription orders to: Circulation Department, NATIONAL PETROLEUM NEWS, 950 Lee Street, Des Plaines, Illinois 60016. Or call (708) 296-0770, 9 a.m. to 4 p.m.

Postmaster: Send address changes to NPN—NATIONAL PETROLEUM NEWS, 950 Lee Street, Des Plaines, Illinois 60016.

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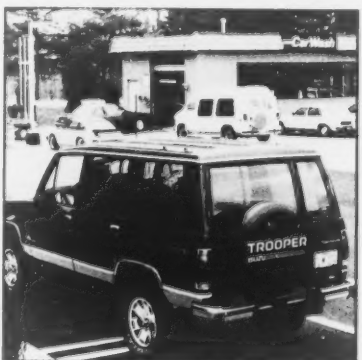
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Keeping up with developments in software is just as important as checking out the new hardware. Here's how to sort out the pieces of the puzzle.

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Using advanced technology and a discount pricing strategy, Middle Ridge Amoco & Car Wash, Woodbridge, Va., has blown its competition out of the water.

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## ● TOP OF THE NEWS

### Oil Employment Varies From +108% to -68%

Shell's surprise disclosure that it expects to cut its work force 10-15% by the end of 1992 focuses attention on the fact that the oil industry itself has been on a hire-and-fire, expand-and-retrench sort of a roller coaster for the past 10 years.

Shell conceded that its retrenchment plan was a top management decision to stem or halt the eroding profitability of recent years. The current payroll is 31,600, according to Shell's 1990 annual report. A 15% reduction would reduce this work force by almost 5,000 employees. That would cut the company down to about the size of Arco or Marathon in the number of people manning its offices and facilities. The catch here is that Shell is a national company—indeed it is the nation's No. 1 gasoline retailer—while Arco and Marathon are considered to be regional types. Shell's national retailer title may be put in jeopardy by its cutback and a parallel decision to sell its refinery near Los Angeles (See related news article on page 26).

Shell says it will offer voluntary retirements to most targeted employees and then follow through with layoffs to reach its goal.

Over the past decade, there has been much movement up and down in the number of oil company employees.

For example, Mobil has about 145,000 fewer people working for it now than it did in 1980. That sounds like a staggering cut until it is recalled that much of it came about by Mobil's jettisoning of Montgomery Ward and Container Corp. of America as corporate payroll subsidiaries.

Similarly, Exxon's payrolls are down 72,000 vis a vis 1980. Here again, restructuring and some painful elimination of subsidiaries were responsible. Texaco's annual

report shows that it has almost 30,000 fewer people working for it now than in 1980. Texaco not only went through bankruptcy and a series of corporate overhauls, but also joined Saudi Arabia in a 50-50 deal for ownership of Star Enterprise, which subsequently absorbed thousands of Texaco employees.

Amoco and Chevron report very little change in their payrolls over the past decade. Amoco, now at 54,100 people, had been down to 48,200 in 1948. It also had been up as high as 58,000 in 1982. That's a high/low variation of as many as 10,000 employees. Chevron, when it bought Gulf Oil in 1984, was down to 38,900 employees, compared with 54,300 in 1980. Subsequently, Chevron sold off most of the Gulf properties, but its employee count went from 40,900 people in 1986 to 54,200 in 1990.

Another interesting company is BP America. In 1980, what subsequently became BP America was the old Standard Oil Co. of Ohio. Sohio, as it was then called, had 22,500 employees. Its peak was 54,700 in 1981, a result of its merger with Kennecott Copper. The total declined to 39,700 in 1986 as changes and consolidations implemented by the American company's corporate overlords in BP/London kept the corporate payroll totals in a state of flux. The 1990 total was down to 37,200, but this can be expected to rise in the '90s as BP America continues an expansion program currently underway.

Marathon's 10-year span includes a growth of 11,000 employees. This also looks big until it is recalled that Marathon, in 1980, was the old Ohio Oil Co. which had a more limited marketing perspective than the present Marathon, a wholly owned subsidiary of USX Corp. that has been talked about as a potential standalone oil company in the mid-'90s.

In all, over the past 10 years, 13 oil companies have reduced their payrolls from 0.2% to 68.2%. Eight others have increased the number of people working for them from 3.3% to as much as 107.7%.

**The Ups and Downs: Oil Company Employment—1980-1990**

|              | (In thousands) |       |       |       | % Chng |       | High/Low  |           |
|--------------|----------------|-------|-------|-------|--------|-------|-----------|-----------|
|              | 1990           | 1988  | 1986  | 1984  | 1982   | 1980  | '90 v '80 | Yr/Emp.   |
| Amerada Hess | 9.6            | 8.2   | 7.8   | 8.4   | 8.9    | 8.4   | 14.3%     | '90/9.6   |
| Amoco        | 54.1           | 50.1  | 48.2  | 55.2  | 58.2   | 54.3  | (0.4)     | '82/58.2  |
| Arco         | 27.0           | 26.5  | 29.0  | 39.9  | 52.9   | 53.4  | (49.4)    | '80/53.4  |
| Ashland      | 35.6           | 39.7  | 33.6  | 31.5  | 32.5   | 24.6  | 44.7      | '88/39.7  |
| BP America   | 37.2           | 40.6  | 39.7  | 44.2  | 49.0   | 22.9  | 62.4      | '81/54.7  |
| Chevron      | 54.2           | 52.7  | 40.9  | 38.9  | 42.5   | 54.3  | (0.2)     | '80/54.3  |
| Citgo        | 3.3            | 3.2   | 3.4   | 3.8   | NA     | NA    | NA        | '84/3.8   |
| Coastal      | 13.5           | 18.4  | 16.4  | 5.4   | 7.1    | 6.5   | 107.7     | '88/18.4  |
| Conoco       | 19.3           | 18.7  | 19.6  | 21.2  | 21.1   | 19.7  | (2.0)     | '84/21.2  |
| Exxon        | 104.0          | 100.5 | 123.0 | 150.0 | 173.0  | 176.6 | (41.1)    | '81/180.0 |
| Fina         | 3.8            | 3.2   | 3.4   | 3.1   | 2.6    | 2.7   | 40.7      | '90/3.8   |
| Kerr-McGee   | 7.3            | 7.7   | 7.9   | 9.6   | 10.5   | 11.1  | (34.2)    | '81/11.2  |
| Marathon     | 26.1           | 24.1  | 24.8  | 20.5  | 17.0   | 15.2  | 71.7      | '89/26.6  |
| Mobil        | 67.6           | 68.9  | 146.8 | 178.5 | 197.2  | 212.8 | (68.2)    | '80/212.8 |
| Murphy       | 4.3            | 4.5   | 4.8   | 5.9   | 5.4    | 4.7   | (8.5)     | '84/5.9   |
| Pennzoil     | 7.9            | 8.1   | 7.3   | 8.7   | 9.5    | 10.2  | (22.5)    | '81/10.3  |
| Phillips     | 22.1           | 21.8  | 23.6  | 28.9  | 32.1   | 32.4  | (31.8)    | '81/33.5  |
| Shell        | 31.6           | 32.4  | 32.6  | 34.7  | 36.5   | 36.6  | (13.7)    | '80/36.6  |
| Sun          | 21.3           | 22.0  | 30.7  | 37.4  | 43.3   | 48.8  | (56.3)    | '80/48.8  |
| Texaco       | 39.2           | 46.0  | 53.2  | 61.4  | 63.5   | 66.7  | (41.2)    | '80/66.7  |
| Unocal       | 17.4           | 18.2  | 19.1  | 20.5  | 19.7   | 15.0  | 3.3       | '84/20.5  |

## ● TRENDS

### Shell's No. 1 Retailer Crown?

Shell Oil's decision to sell or close down its 68-year-old Los Angeles area refinery might have set in motion a series of events that could cost it its crown as the nation's No. 1 gasoline retailer.

The complicating factor was Shell's subsequent announcement that it expects to trim its work force 10-15% by December 1992. This could hurt, too, depending on the impact of its retrenchment program downstream.

Shell overtook Chevron as the national title-holder in 1986 and, except for 1989, hasn't faltered a whit in retaining it. Naturally, it is very proud of its reputation of being No. 1 in the American gasoline marketplace, especially since its owners are foreigners, so to speak. Shell is the wholly owned subsidiary of a British-Dutch combine known as the Shell/Royal Dutch Shell Group of Cos.

But some domestic scenario dreamer-uppers now say that the refinery sale (or shutdown) could have both short-term and long-term repercussions for Shell in the national share-of-market derby, no matter who its parents are.

This is how some market analysts see things now:

Shell relies heavily on its 120,000 b/d refinery at Wilmington, on the outskirts of Los Angeles, to retain its grip on 15% of this marketplace, said to be the world's largest. This 15% is estimated to be worth about 1.3-billion gal. annually. Keep that figure in mind.

Once the refinery is sold, Shell will have to rely on outside suppliers for much of the gasoline it retails in Los Angeles and southern California. It will, of course, have access to product from other Shell refineries on the West Coast—the 140,000 b/d facility at Martinez, Calif., and the 85,000 b/d at Anacortes, Wash. But Carson's 120,000 b/d will be a lot to compensate for. Moving product down from those plants will be more expensive, too.

Shell is hopeful that it can make a supply deal with the buyer of the Wilmington refinery. If it doesn't succeed, it will have to compete for wholesale prices in an open marketplace that's not only the biggest, but also one of the fiercest in anything involving money. Even Shell exec

Steven Miller concedes that Shell's presence in the Los Angeles marketplace is going to suffer when the refinery is sold.

First, he was quoted as saying, Shell would have to stop selling gasoline in the wholesale market. It also would have to cut sales to its unbranded dealers and may have to consider reducing supply of some Shell retailers.

But what does all this have to do with Shell's image and role as the Nation's No. 1 gasoline retailer? As noted above, Shell owns about 1.3-billion gal. in the LA metro marketplace. Any significant loss in retail volume in the Los Angeles area couldn't help but impact on Shell's total for the 50 states and the District of Columbia.

In 1990, Shell had only a 0.5% gain in total volume. The year before was a loser, down 4.4%, but that wasn't enough to disenfranchise itself as top dog.

Shell's national volume in 1990 was only 600-million gal. greater than second-place Chevron's. Now, 600-million gal. is a lot of gasoline, but in marketplace terminology where 10-billion and 100-billion gal. are the yardsticks, it's not such an overwhelming amount at that. Thus Chevron, with a bit of a surge coupled with a significant loss of volume by Shell in California, could easily oust Shell out of first place just as easily as Shell knocked off Chevron in 1986.

An interesting note: Trade sources say Shell is probably expecting about \$500-million or so for the facility. But if no buyer emerges, then what? Shell has said it would close down the facility because essential spending and environmental spending could cost up to \$200-million/yr. Thus, it wouldn't get the \$500-million it wants for the refinery, and its supply problems would only be compounded.

Another notable item: Hottest prospect as a buyer, financial sources say, is BP America, which has gobs of Alaskan crude at its disposal and an urgent need for West Coast processors to take advantage of the unique situation. BP America, which has made no bones about its desire to be "big" on the West Coast, recently bought a small Washington refinery and several retail outlets. Oilmen say there is much more to come and soon.

—J. Richard Shaner

## ● MARKETPLACE AT A GLANCE

### AVERAGE GASOLINE PRICES IN THE U.S. (per gal.)

|                | Gasoline<br>(All types) | Leaded<br>Regular | Unleaded<br>Regular | Unleaded<br>Premium |
|----------------|-------------------------|-------------------|---------------------|---------------------|
| MARCH          |                         |                   |                     |                     |
| U.S. City Avg. | \$1.209                 | *                 | \$1.156             | \$1.331             |
| Regions        |                         |                   |                     |                     |
| Northeast      | 1.269                   | *                 | 1.196               | 1.394               |
| North Central  | 1.221                   | *                 | 1.182               | 1.343               |
| South          | 1.198                   | *                 | 1.130               | 1.305               |
| West           | 1.153                   | *                 | 1.117               | 1.288               |

\* Data no longer collected or available.

Source: U.S. Dept. of Labor, Bureau of Labor Statistics.

### STOCKS (Add 000 bbl.)

|                               | 6/28/91 | 6/29/90 |
|-------------------------------|---------|---------|
| Gasoline (Total) <sup>a</sup> | 219,167 | 215,538 |
| Jet Kerosine                  | 42,300  | 41,526  |
| Distillates                   | 113,588 | 111,058 |
| Residual                      | 44,162  | 44,004  |

<sup>a</sup> Effective 7/2/91, only total gasoline stocks are being reported; unleaded gasoline stocks have been dropped.

Source: American Petroleum Institute.

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Cov. 1, Pgs: 3, 5, 8, 10,

34-68, 124

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September 1991

\$7.00

# What's the Future of Diesel Fuel Marketing? How C-Stores Flex Their Buying-Power Muscles California Wants to Stop Topping Off 'Gas' Tanks

# NPN

National Petroleum News



## C-Stores, C-Stores, C-Stores...



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## Editor's Viewpoint

**Kudos for the Petroleum Marketers Assn. of America (PMAA), National Assn. of Convenience Stores (NACS) and Society of Independent Gasoline Marketers of America (SIGMA). These three national trade associations deserve a round of applause for diligently working side-by-side to help keep you in business.**

At the urging of these associations, Rep. Mike Synar (D-OK) introduced much-needed legislation in Congress July 22, designed to thwart anti-competitive practices. This legislation would prohibit refiners from posting retail prices at their direct-operated locations below the prices charged to their wholesale customers—after adjusting for the cost of doing business. HR 2966 would also make it illegal for refiners to exercise price controls over their branded dealers through coercion, intimidation, etc.

It's not my intention to create any animosity with the major oil companies by implying that they want to force you out of business. I just believe that the "Petroleum Marketing Competition Enhancement Act" restores equity in the market by putting all retail operations on the same level playing field in the same geographic marketing area.

No one likes government to step in and regulate free enterprise. But let's face it, there appears to be some questionable pricing going on in the petroleum marketplace.

I've spoken with a few major oil company execs and I understand their reasoning for these price disparities. However, I must admit that the unusual price inversions seen since the invasion of Kuwait look like an attempt by some companies to exercise price controls. These actions are not only unfair, but they are forcing a number of marketers to reevaluate their future role in petroleum marketing. Some marketers are struggling on the brink of bankruptcy, while others have already tossed in the towel.

Therefore, barring voluntary efforts by some refiners to restore pricing equity in the marketplace, it looks like HR 2966 is the only option open to petroleum marketers.

I realize there will be some people who support my comments and others who will oppose them. We have an open forum for commentary here at *National Petroleum News* and I welcome your remarks, whatever your opinion is. I will print your views on our monthly Letters to the Editor page. I think it is only fair to give you the same opportunity to voice your opinions as I am free to voice mine.

—Peggy Smedley

NPN—National Petroleum News (ISSN 0149-5267) is published monthly (except semi-monthly in June) by Hunter Publishing Limited Partnership, 950 Lee Street, Des Plaines, Illinois 60016, (708) 296-0770.

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Second class postage paid at Des Plaines, Illinois and additional mailing offices.

Subscriptions are solicited only from executive, management and supervisory personnel at the supplier and wholesale level of oil marketing, engaged in the distribution, merchandising, transportation and storage of petroleum, TBA products, and convenience store items. Position, company and segment of industry must be indicated on subscription orders.



Basic subscription rates for one year to individuals in the petroleum marketing industry are: U.S. \$60; Canada \$69 (U.S. \$); Foreign surface mail \$75 (U.S. \$); Foreign airmail \$110 (U.S. \$). Non-industry personnel rates for one year are: U.S. \$75; Canada \$84 (U.S. \$); Foreign surface mail \$90 (U.S. \$); Foreign airmail \$134 (U.S. \$). Single copy price: U.S. & Canada \$9.00 (includes first class postage). Foreign \$11.00 (includes airmail postage). Mid-June Feedback: U.S. \$50; Canada \$60; Foreign \$70. The publisher reserves the right to accept or reject any subscription. (R) Title registered in U.S. patent office. Change of address: Notices should be sent promptly; provide old mailing label as well as new address; include ZIP or postal code. Allow 6-8 weeks for change. Send address changes, correspondence regarding subscription service or subscription orders to: Circulation Department, NATIONAL PETROLEUM NEWS, 950 Lee Street, Des Plaines, Illinois 60016. Or call (708) 296-0770, 9 a.m. to 4 p.m.

Postmaster: Send address changes to NPN—NATIONAL PETROLEUM NEWS, 950 Lee Street, Des Plaines, Illinois 60016.

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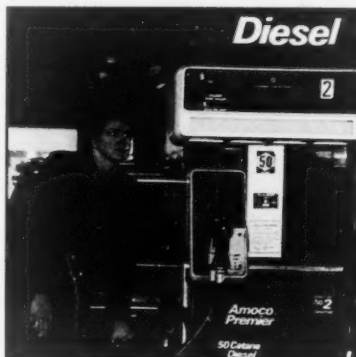
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## ● TOP OF THE NEWS

### Except for Exxon and a Few Lesser Lights, Second-Quarter Nets Were Sad

Almost everybody took it on the chin in the second quarter as a weak economy that was combined with depressed demand for oil products, slimmer margins on gasoline sales and tougher street competition to maintain volume hurt corporate and downstream profits alike.

Shell, for example, posted a second-quarter loss of \$68-million, its first such quarterly decline since 1934. The loss also reflected a Shell write-off of \$90-million in the second quarter to help pay for its recently announced decision to cut its employee roster by 10%. Arco recently announced it is joining the 10 percenters and is trimming its payroll accordingly. Chevron last year embarked on a cost-cutting campaign to reduce employee rosters by 10%.

Almost surprisingly, Exxon's second-quarter profits were up 2.3% and its domestic downstream net soared 49%. The few others with second-quarter pluses were Conoco, up 40%, Coastal, up 18.6%, Pennzoil, up 171% and Diamond Shamrock, up 3%. But percentages, as noted before, are deceiving. Exxon's 2.3% increase is worth more than \$25-million, while Pennzoil's 171% entailed slightly more than \$5-million.

Shell's Frank H. Richardson said that despite the second-quarter losses, "we are proceeding with the streamlining of our operations and have recently announced several actions designed to improve operating results." He said also that "we are closely monitoring our capital spending in order to make necessary timely adjustments if business conditions warrant."

Chevron chairman/CEC Kenn Derr blamed much of the poor second-quarter earnings on the company's refining and marketing operations. He said, "Our domestic downstream business basically broke even for the quarter whereas last year's quarter enjoyed unusually strong product sales margins."

#### Here They Are, in Black and White

|                  | (millions of dollars) |               |            |                |                |            |
|------------------|-----------------------|---------------|------------|----------------|----------------|------------|
|                  | 2nd Q<br>1991         | 2nd Q<br>1990 | %<br>Chng. | 6 Mos.<br>1991 | 6 Mos.<br>1990 | %<br>Chng. |
| Exxon            | \$1,125.0             | \$1,100.0     | 2.3        | \$3,365.0      | \$2,380.0      | 41.4       |
| Mobil            | 445.0                 | 498.0         | (10.6)     | 1,150.0        | 898.0          | 28.6       |
| Chevron          | 384.0                 | 648.0         | (40.7)     | 941.0          | 1,121.0        | (16.1)     |
| Amoco            | 238.0                 | 379.0         | (37.2)     | 1,041.0        | 845.0          | 23.2       |
| Shell            | (68.0)                | 161.0         | ---        | 57.0           | 363.0          | (84.3)     |
| Texaco           | 269.0                 | 353.0         | (23.8)     | 684.0          | 681.0          | 0.4        |
| Arco             | 246.0                 | 391.0         | (58.9)     | 597.0          | 983.0          | (39.3)     |
| BP America       | 426.0                 | 559.0         | (23.8)     | 1,077.0        | 1,211.0        | (16.6)     |
| Phillips         | 16.0                  | 105.0         | (84.8)     | 176.0          | 364.0          | (51.6)     |
| Conoco           | 229.0                 | 166.0         | 37.9       | 551.0          | 363.0          | 51.8       |
| Marathon         | 64.0                  | 128.0         | (50.0)     | 135.0          | 210.0          | (35.7)     |
| Unocal           | 5.0                   | 165.0         | (97.0)     | 80.0           | 242.0          | (66.9)     |
| Coastal          | 26.2                  | 22.1          | 18.6       | 80.5           | 97.7           | (17.6)     |
| Amerada Hess     | 67.7                  | (72.1)        | ---        | 143.4          | (32.5)         | ---        |
| Sun              | 43.0                  | 115.0         | (62.6)     | 84.0           | 186.0          | (54.4)     |
| Pennzoil         | 13.0                  | 4.8           | (170.8)    | 34.9           | 37.4           | (6.7)      |
| Ashland *        | 66.7                  | 100.0         | (33.3)     | 82.5           | 122.9          | (32.9)     |
| Kerr McGee       | 10.3                  | 30.1          | (65.8)     | 40.0           | 57.0           | (29.8)     |
| Fina             | 4.2                   | 53.8          | (92.2)     | 12.5           | 80.0           | (84.4)     |
| Citgo            | 64.0                  | 109.0         | (41.3)     | 153.0          | 156.0          | (1.9)      |
| Murphy           | (105.1)               | 35.5          | ---        | (79.5)         | 57.5           | ---        |
| Total Petroleum  | 6.6                   | 17.2          | (61.6)     | (4.1)          | 4.9            | ---        |
| Diamond Shamrock | 17.7                  | 17.2          | 3.0        | 22.0           | 16.5           | 33.3       |
| Crown Central    | 8.4                   | 15.2          | (44.7)     | 2.4            | 16.3           | (85.9)     |

\* Third quarter, fiscal ends 9/30.

#### Downstream, the Nets Were Just as Sorry Looking

|                   | (millions of dollars) |               |            |                |                |            |
|-------------------|-----------------------|---------------|------------|----------------|----------------|------------|
|                   | 2nd Q<br>1991         | 2nd Q<br>1990 | %<br>Chng. | 6 Mos.<br>1991 | 6 Mos.<br>1990 | %<br>Chng. |
| Exxon (Total)     | \$532.0               | \$574.0       | (7)        | \$1,885.0      | \$765.0        | 146        |
| Domestic          | 113.0                 | 76.0          | 49         | 369.0          | 48.0           | 668        |
| Foreign           | 419.0                 | 498.0         | (16)       | 1,516.0        | 717.0          | 111        |
| Mobil (Total)     | 279.0                 | 278.0         | ---        | 721.0          | 370.0          | 95         |
| Domestic          | 65.0                  | 58.0          | 12         | 165.0          | 97.0           | 70         |
| Foreign           | 214.0                 | 220.0         | (3)        | 556.0          | 273.0          | 104        |
| Chevron (Total)   | 50.0                  | 448.0         | (89)       | 283.0          | 608.0          | (54)       |
| Domestic          | (16.0)                | 370.0         | ---        | 83.0           | 429.0          | (81)       |
| Foreign           | 66.0                  | 78.0          | (15)       | 200.0          | 149.0          | 34         |
| Texaco (Total)    | 194.0                 | 328.0         | (41)       | 465.0          | 464.0          | ---        |
| Domestic          | 65.0                  | 171.0         | (62)       | 125.0          | 301.0          | (38)       |
| Foreign           | 129.0                 | 157.0         | (18)       | 340.0          | 363.0          | 29         |
| Amoco (worldwide) | 227.0                 | (99.0)        | ---        | 441.0          | 30.0           | 137        |
| Shell             | 5.0                   | 73            | (93)       | 9.0            | 52.0           | (83)       |
| BP America        | na                    | na            | na         | na             | na             | na         |
| Arco              | 85.0                  | 175.0         | (51)       | 159.0          | 247.0          | (36)       |
| Phillips          | 58.0                  | 175.0         | (51)       | 181.0          | 278.0          | (35)       |
| Conoco            | 160.0                 | 135.0         | 19         | na             | na             | ---        |
| Sun               | 73.0                  | 131.0         | (44)       | 111.0          | 156.0          | (29)       |
| Marathon *        | 131.0                 | 263.0         | (50.2)     | 233.0          | 340.0          | (31)       |
| Coastal           | 29.0                  | 56.0          | (48)       | 60.0           | 106.0          | (43)       |

\* Operating income, not net.

Said Texaco president/CEO James Kinnear, "The weakness in the U.S. economy during the second quarter contributed to the reduced demand for gasoline and other petroleum

products which depressed refined product margins, the primary cause of the lower second-quarter earnings. Margins on the West Coast were especially hard hit."

## ● TRENDS

### Joint Project Could be A 'Clean Air' Winner

It may be somewhat of a long shot, but Sun Refining and Marketing and Sinclair Refining Corp. are jointly working on a community project to help keep Tulsa, Okla., out of trouble with federal environmental authorities. If it works, other communities might want to give it a try, too.

Tulsa made the federal government's "dirty air" list about 11 years ago. It achieved a cleaner status through the years and in October 1990 it was removed from the list and given a high social rating. In June, however, a combination of hot, windless conditions put Tulsa over the top again; it exceeded the maximum ozone level of .12-ppm (parts per million). Another situation like that and once again Tulsa would be simply another "dirty air" city.

Tulsa mayor Roger Randle appealed to Sun, Sinclair and others to help, if they could. The two oil marketers responded by lowering the Reid vapor pressure (RVP) of all of their gasoline sold in the Tulsa marketplace by 1-lb./sq.in., from 9.5-psi to 8.5-psi.

The two companies and the city officials conceded that the joint action by Sun and Sinclair wouldn't solve the problem in its entirety, but it sure would go a long way in doing it. The program won't be without cost, but consumers will never feel it. Both oil companies are absorbing the extra cost in manufacturing the new RVP gasoline.

Said Randle, "The oil industry in Tulsa is to be applauded for stepping to the forefront in identifying and implementing these measures which will play a major role in Tulsa's fight to stay off the 'dirty air' list. What makes this program unique is the fact that these companies are making these sacrifices voluntarily to protect Tulsa and its environment."

William G. Rosenberg, assistant administrator for air and radiation with the U.S. Environmental Protection Agency, also joined in the applause. "This decision to reduce gasoline volatility and assist Tulsa in maintaining its status as an attainment area is an outstanding example

of voluntary industry initiative to improve air quality. I applaud their vision and efforts in taking this responsible step to protect the environment."

Sun's director of business development and strategic planning, J.G. Driscoll, chipped in his two cents' worth at the Tulsa conference sponsored by the mayor and the city: "Since Sun's refinery delivers more than half of all the gasoline marketed in the Tulsa metropolitan area, we hope our action will have a major positive effect on emissions from vehicles and retail pumps. While no one can guarantee that this will keep Tulsa in attainment of ozone standards, it will increase that likelihood significantly."

John Goodwin, manager of human resources for Sinclair, summed it all up this way: "Local government officials asked for our help and we were happy to do our part in being a corporate citizen."

Mayor Randle urged other Tulsa businesses to join in a common program to educate citizens about comparable actions that would help reduce ozone levels.

One of these was a special program under which the Tulsa transit company on "ozone alert days" will provide free bus rides for everyone provided private cars were left at home.

The oil companies' cooperative RVP program continued through the rest of the summer months. Although the program seems routine, it's still a major effort by a community and its major gasoline suppliers to keep off the "dirty air" list rather than wait until it happens and then fight the uphill battle to get off.

Getting down to a RVP 8.5-psi isn't an easy task for refiners. Both cost and timing are key ingredients, and deliveries to stations must be monitored constantly to ensure that the gasoline specifications and pressure levels are well within the mandates of the federal and state governments.

The problem, of course, is not unique to Tulsa. Many cities and states have similar borderline situations. The willingness of Sun Refining and Marketing and Sinclair to respond so quickly to a municipal SOS for help, however, is to be applauded and cited as an example for others to emulate.

—J. Richard Shaner

## ● MARKETPLACE AT A GLANCE

### AVERAGE GASOLINE PRICES IN THE U.S. (per gal.)

|                | Gasoline<br>(All types) | Leaded<br>Regular | Unleaded<br>Regular | Unleaded<br>Premium |
|----------------|-------------------------|-------------------|---------------------|---------------------|
| JUNE           |                         |                   |                     |                     |
| U.S. City Avg. | \$1.214                 | *                 | \$1.160             | \$1.338             |
| Regions        |                         |                   |                     |                     |
| Northeast      | 1.280                   | *                 | 1.210               | 1.401               |
| North Central  | 1.217                   | *                 | 1.178               | 1.346               |
| South          | 1.204                   | *                 | 1.135               | 1.314               |
| West           | 1.161                   | *                 | 1.123               | 1.297               |

\* Data no longer collected or available.

Source: U.S. Dept. of Labor, Bureau of Labor Statistics.

### STOCKS (Add 000 bbl.)

|                               | 7/26/91 | 7/27/90 |
|-------------------------------|---------|---------|
| Gasoline (Total) <sup>a</sup> | 210,847 | 215,554 |
| Jet Kerosine                  | 43,044  | 44,638  |
| Distillates                   | 120,424 | 118,613 |
| Residual                      | 44,612  | 44,743  |

<sup>a</sup> Leaded regular prices no longer collected by Bureau of Labor Statistics.

Source: American Petroleum Institute.



# C-Stores, C-Stores, C-Stores... ...Who are They? ...Where are They?



Miller mart



Star Mart

Speedy STORE

PANTRY

COUNTRY SHOP

Consider for a moment the total number of convenience stores in today's marketplace. One industry organization reports there are 71,200 C-stores currently. Another pegs the number at 84,500 stores. Others have come up with their own figures or estimates.

These numbers are certainly intriguing and I think these organizations should be commended for at least attempting to determine the total C-store population.

However, after just completing a C-store survey of our own, I believe it's virtually impossible to tabulate every convenience store, kiosk and island marketer that exists today. Why? A main reason is that the C-store industry is still squabbling over the exact definition of a convenience store. And to make matters worse, many C-store operators, along with a couple of major oil companies and a few petroleum marketers do not want to tip their hand to the competition and therefore do not respond to surveys of this type.

While the convenience store industry scrambles to come up with a total C-store universe, we at NPN decided to go a step further. Rather than giving you another "total" figure to gnaw on, we have decided to show you where the preponderance of C-stores are located on a state-by-state basis as well as track-

ing some of the growth patterns over the past couple of years.

We do not claim to know all the C-stores that are out there today. Instead, we have compiled a list of more than 500 companies that represent the great bulk of convenience stores that also sell gasoline.

We asked these companies to reveal information about their past and present status and future plans for their retail sites. Some of their responses are very illuminating.

After putting in hundreds of hours of research and getting a few of my staff members just slightly disoriented about the workload, we believe we have compiled a comprehensive list of companies.

Similar to our retail gasoline outlet survey we unveiled in April, we hope to make this an annual exercise as well. In addition, each year we hope to add more names to our list.

I want to thank all the oil companies, marketers and C-store operators who took the time to either answer the questionnaire or who responded to our phone survey. We realize that you are all bombarded with numerous surveys from the industry all year long.

I hope the data we compiled not only clears up some of the confusion, but gives you a better picture of the C-store universe.

—Peggy Smedley



Convenience stores have become almost as familiar a sight on the American scene as the old corner gasoline station. In fact, many thousands of those old stations have become C-stores. The gasoline pumps are still out front at most of those sites. But the service bays and the tiny office with its cigarette and soda pop machines have been replaced by modern, attractive facilities that offer a wide selection of food and sundry items to an increasingly convenience-minded motoring public.

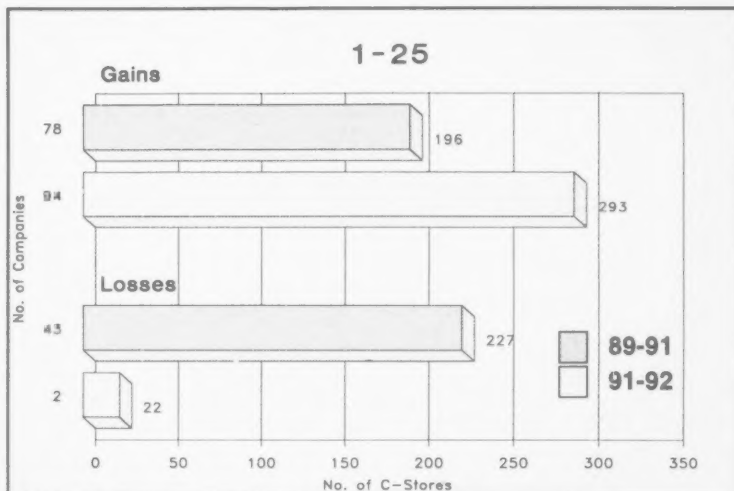
During the past 10 years or so convenience stores have been popping up just about everywhere. They vary in size from about 500-sq.ft. to 3,500-sq.ft. and in some cases even larger. Generally, they offer a variety of products that appeal to a consuming public that has less and less time to putter around from shop to shop, looking for a few needed items. Convenience of location and savings of time put the C-store on the American retail map and they will keep it there.

The variety of product and service offerings at many C-stores has grown almost geometrically. Hot dogs, pizza, fried chicken, soda fountain drinks, gum, candy, deli foods, beer and wine, ice cream, nachos, videos, automatic teller machines, lottery tickets and much, much more have become staples at many thousands of C-stores.

However, in recent years there have been some fundamental changes in the C-store industry. And those changes will determine the industry's course for the next decade and will sort out who the major players will be and who will pass from the scene.

Until recently, the traditional convenience store chains have dominated this fast-paced industry. However, during the past three years there has been a shakeout throughout the traditional C-store population. Old line pioneers of the business like Southland and Circle K, have been jolted financially and are struggling to get back on their feet.

But the most dramatic development is that most C-store companies are finding themselves in tough head-to-head competition with petroleum marketers and major oil companies. The majors, independent gasoline chains and marketers have been investing heavily in upgrading their existing facilities and adding new C-store operations. For these firms, C-stores offer an ideal opportunity to create an additional profit center at their locations, pull in more traffic and recover their often heavy investments in property and facilities.



### Bigger stores

In past years, many oil company locations had only small kiosks or island marketers on the pretext of "get 'em in and get 'em out, and don't block the islands." But this, too, is changing. While some oil companies are sticking with the island marketer style, others are building full-size stores with expanded product mixes and all the trimmings.

This will most likely affect market share for merchandise sales in many areas as 500-sq.ft. to 1,000-sq.ft. units with \$10,000-\$15,000/mo. in inside sales give way to 1,500-sq.ft. to 3,000-sq.ft. stores generating two to three times those dollar figures.

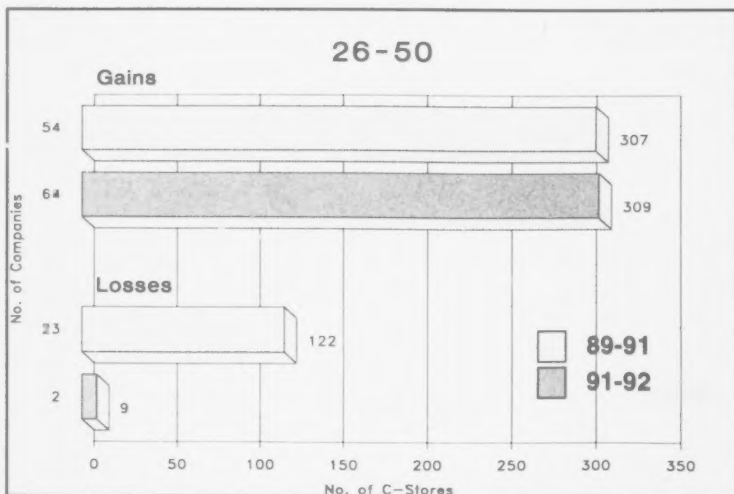
In addition to the intense competition, environmental regulations and expensive store acquisitions have also complicated this marketing environment. Environmental expenses particularly have diverted capital that would normally be devoted to expansion or new construction for oil

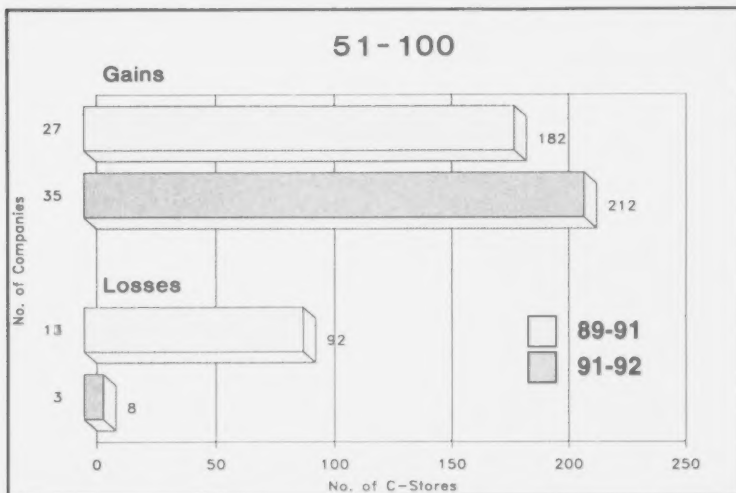
firms and C-store chains alike.

Hardly anyone would dispute the fact that the all-out building race that began several years back in the convenience store industry is starting to taper off. More and more companies are retrenching and reevaluating their retail operations.

The hard-headed managers who run today's companies have discovered that growth in numbers doesn't automatically translate into growth in profitability.

The majors learned that lesson back in the early 1980s when they found that a station on every corner is not the most cost-effective way of doing business. The pattern of restructuring and downsizing of their retail networks that began during that period (and continues today) is now being repeated by several of the larger C-store companies. Firms like Houston-based National Convenience Stores (NCS) are pulling back to their primary markets where they enjoy strong market share, brand recognition and distribution and advertis-





ing efficiencies.

On the whole, this downsizing is a healthy trend. Oil companies and traditional C-store chains are examining their markets and unloading the "poor performers," while at the same time investing more time and money into their prime locations. These companies are upgrading their image and sprucing up their signage, logos and graphics. They're adapting their product offerings and marketing strategies to suit local customer tastes. With a few exceptions, the era of building cookie-cutter C-stores is over.

#### New data

Over the past several months, *NPN* editors have been collecting convenience store industry data by surveying owners and operators around the country. To gather this data, *NPN* mailed out hundreds of C-store questionnaires to major and independent oil companies, petroleum marketers and large, mid-sized and small C-store firms.

To supplement this survey information, data from the 1991 annual *Factbook* questionnaires were incorporated. In addition, hundreds of follow-up telephone interviews were conducted by *NPN* staffers.

The questionnaires and interviews were designed to elicit as much information as possible about industry trends. It was not *NPN's* intention to derive another total C-store "universe" number. Instead, this report focuses on company growth patterns and plans—which companies are growing and which are pulling in the reins on their C-store investments.

In all, *NPN* polled more than 500 companies that not only operate convenience stores, but also sell gasoline. The C-store/gasoline outlet combination has clearly become the dominant marketing style for both petroleum companies and C-store firms.

In its survey, *NPN* also sought information on C-store location, by state, of each company's retail sites. This information, while not 100% complete for all industry firms, represents the first time this data has ever been available or published.

Many of the companies polled responded to all the questions, including the state-by-state breakdown of their retail locations. Others, however, were a little less revealing and didn't answer all the questions. However, the information on the following pages provides a good picture of where the C-stores are located and who owns them.

In addition to the state-by-state tabulations, there are summary charts in this report that show how many total C-stores each company owns. For a good percentage of the responding companies, the charts also track key trends such as growth in C-store outlets since 1989 and projected growth in outlets through 1992. Also shown, for many companies, are the num-

ber of franchised and salaried operations, the number which sell gasoline, average per outlet gasoline sales and average store size for mini and full-size outlets.

#### Numbers game

An analysis of the C-store numbers by company size (1-25 stores, 26-50 stores, etc.) reveals some very interesting trends. Here's how those numbers break out:

● **1-25 C-stores.** Of the total 211 companies that responded as having 25 or fewer stores, 78 reported that they added a total of 196 C-stores between 1989-1991. In this same group, 94 companies report that they will add 293 stores by the end of this year and in 1992.

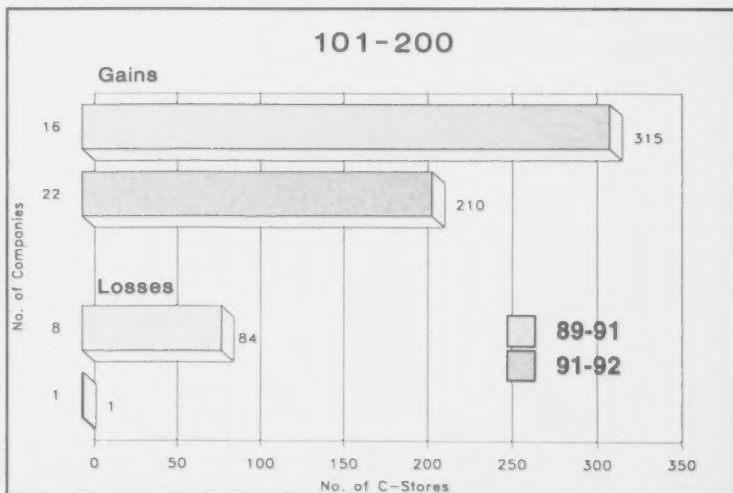
However, in the same category, 43 firms reported that they closed 227 stores during the 1989-'91 period. Two companies report that they will close (or perhaps sell off) 22 stores by the end of 1992.

(Note: The projected store additions and closings for 1991 and 1992 have been combined for clarity.)

● **26-50 C-stores.** Companies that currently have between 26-50 stores say they added 307 units during 1989-'91. Sixty-four companies report they will add 309 during 1991-'92. In our 112-company sampling, 23 report they closed 122 stores between 1989-'91 and two more companies report they will close 9 units at the end of 1992.

● **51-100 C-stores.** Twenty-seven companies in the 51-100 store range added 182 units between 1989-'91 and 35 companies say they will add another 212 units before 1993. In the same category, 13 companies reported that they closed 92 stores during the two year period and three firms report they will shut down an additional eight units before the end of next year.

● **101-200 C-stores.** Sixteen companies report they added 315 C-stores during 1989-'91 and 22 companies say they will



add 210 before 1993. Eight companies report they closed 84 during 1989-'91 and one firm says it will shut down only one location by the end of 1992.

● 200 plus C-stores. In the 201-plus range 13 companies say they added 502 units during three-year period beginning in 1989. Eighteen firms say they will increase their stable by an additional 505 units by 1992. However, six companies report they shut down 59 locations and one company reports it will close only one site before the end of 1992. The figures for this category, by the way, do not include C-store numbers for 21 of the major and semi-major oil companies. These numbers are analyzed separately below.

Looking at these numbers it's apparent there have been some winners and losers in the last two years in the C-store business as far as store counts are concerned. The smallest firms (1-25 C-stores) had a net loss of 31 stores in the 1989-'91 period. One reason for this could be that environmental regulations on underground storage tanks and financial responsibility have taken their toll on those companies least capable of affording the investments required to comply with the regs.

On the other hand, many of these small firms are obviously upbeat about the future. Almost half of the respondents project an increase in store counts—an average of three new stores per company—by the end of next year.

On the whole, companies in the next four categories (26-50, 51-100, 101-200, 200-plus) have been adding C-stores at a break-neck pace since 1989. More than twice as many companies in these groupings showed increases in store counts compared to those firms reporting losses. The net gain (subtracting losses) since 1989 for these companies was 1,049 C-stores.

The pace of growth anticipated by these companies this year and next is even more impressive. They project a net gain of 1,307 stores by the end of 1992. Only seven companies expect a net loss of stores by the end of next year.

### What majors are doing

NPN's survey clearly shows that the major and semi-major oil companies are elbowing their way into the C-store business in significant numbers.

Of the 26 major companies responding, 17 reported adding a total of 2,627 C-stores to their chains since 1989. Only three companies reported lower numbers for the period, an inconsequential total of 11 fewer stores.

While firm numbers on future growth by the majors are somewhat difficult to gather, given these companies' historical reluctance to reveal future plans, 11 firms say they are planning to add 642 C-stores

## Reading the Numbers

Some care should be exercised in evaluating the information presented for certain individual companies in this report. This applies specifically to the major oil company data.

Compared to C-store companies, most independent gasoline chain retailers and petroleum marketers, the majors and semi-majors have complex distribution and marketing systems. The companies market through their own "direct-supplied" retail outlets, which include both salary-operated and lessee dealer locations, and through marketer and commissioned agent distributors.

In responding to the NPN survey, most of the companies submitted data for their direct-supplied locations only. However, several of the majors combined both direct-supplied and marketer-supplied C-store outlets in their totals.

Among this latter group is Star Enterprise, Texaco's joint venture company (with Saudi Arabia) which markets mainly in the East and Southeast portions of the country. Star provided very detailed data on both its direct and marketer C-store outlets, a total of more than 5,000 locations. It's direct-supplied total is an estimated 850 outlets, according to company sources.

Texaco Refining and Marketing (TRMI), the other half of this retail giant's marketing network, reported only direct-supplied outlets, a total of 471. In addition, a company marketing source said, there are approximately 900 TRMI marketer-supplied Texaco branded C-stores. This would put the total of TRMI direct and marketer supplied C-stores at about 1,370.

Thus, the combined total of Star and TRMI direct C-store outlets is approximately 1,320. Total C-stores flying the Texaco flag amount to about 6,800 units.

Other companies shown in the tables which combined direct and marketer outlets include Shell (1,300 reported outlets) and Unocal (2,188 outlets). Unocal's numbers also exclude its Uno-Ven joint venture (with Venezuela) outlets in the Midwest. Sun's totals in the summary table represent direct-supplied outlets only, but the state-by-state breakdown include both direct fuel marketer-supplied convenience stores, excluding its Atlantic division marketer-supplied outlets.

by the end of 1992, an average of almost 60 additional stores per company. This is a net gain, since no company said it expected to close stores in that time frame.

There are an extraordinary number of major brand marketer-supplied outlets in the United States. While complete figures on the marketer supplied total is not available, NPN was able to obtain numbers for this category from 13 major companies. Several other companies have no marketer-supplied outlets.

The 13 companies report a total of approximately 32,000 branded marketer-supplied C-stores. Amoco, for example, says its branded marketers operate about 4,000 C-stores, which would bring the total number of Amoco-branded outlets to over 5,800. Chevron's estimate of its marketer supplied outlets is 2,900. Total has 2,000 and Diamond Shamrock has 1,000.

For some companies, distribution is almost entirely achieved through marketer-supplied outlets. Only a handful of Unocal's 2,188 branded C-stores are company-operated, according to company sources. Fina has 148 direct-supplied locations and 2,700 marketer outlets.

Citgo, however, takes the prize as a marketer-oriented company. Citgo reports only 15 direct-supplied locations, but there are also 6,300 marketer C-stores which sell Citgo branded gasoline.

While these companies do not own or control their marketer locations, most exert a strong influence in how those outlets are operated. Most marketers are obligated to meet their suppliers' branded image standards and abide by policies on credit cards and the like. The companies provide merchandising programs and advertising support to help their marketer customers increase sales. And they assist marketers in rehabilitating existing C-stores and in building new units through rebate programs and other incentives.

One final footnote to this report: Nine companies with two or fewer stores in one state are not included in the state-by-state breakdown. These firms are California-Fresno Oil Co., (two in California); Chiles Oil, Inc., (two in Tennessee); Consumers Oil, (one in New Jersey); Dickey Inc., (one in Iowa); Geldbach Petroleum Co., Inc., (two in Missouri); Pacific Northern Oil Co., (two in California); Private Brand Services, Inc., (one in Michigan); Royster Oil Co., Inc., (one in North Carolina) and Younger Oil Co., (two in Oregon).

It's interesting to note the striking contrast between the growth of the major oil firms and the relative stagnation, in terms  
(Continued on page 50)

# NPN's Convenience

| Company                              | H.Q. Location        | C-Store Name                 | No. of States<br>Where<br>Stores Are<br>Located | Company<br>Operated | Franchise<br>Operated |
|--------------------------------------|----------------------|------------------------------|-------------------------------------------------|---------------------|-----------------------|
| ABC Discount Stores                  | Honolulu, HI         | ABC Stores/MNS Limited       | 1                                               | 48                  | 0                     |
| Acme Petroleum Fuel Co. Inc.         | Gastonia, NC         | Handy Pantry Food Store      | 2                                               | 76                  | 0                     |
| Adens Minit Markets                  | Douglas, GA          | Aden's Minit Market          | 3                                               | 39                  | 0                     |
| Aldin Associates                     | East Hartford, CT    | Chucky's Food Store          | 1                                               | 31                  | 0                     |
| Allen Stop N Shops Inc.              | Kingsville, TX       | Stop-N-Shop/Jolly Rogers     | 2                                               | 55                  | 0                     |
| Allsup's Convenience Stores Inc.     | Clovis, NM           | Allsup's Convenience Store   | 3                                               | 305                 | 0                     |
| Amerada Hess Co.                     | Woodbridge, NJ       | Hess Mart                    | 5                                               | 127                 | 0                     |
| American Accessories Inc.            | Beckley, WV          | Little General               | 2                                               | 30                  | 4                     |
| American Personnel Service           | Pleasanton, CA       | APSI/Chevron Food Mart       | 6                                               | 64                  | 0                     |
| Amoco Oil Co.                        | Chicago, IL          | Amoco Food Shop              | 27                                              | 268                 | 1,356                 |
| Arco Products Co.                    | Los Angeles, CA      | am/pm Mini Market            | 5                                               | N/A                 | N/A                   |
| Arkansas Valley Petroleum Corp.      | Tulsa, OK            | Glt-N-Go                     | 2                                               | 0                   | 15                    |
| Ashland Oil, Inc.                    | Ashland, KY          | SuperAmerica                 | 17                                              | 624                 | 38                    |
| Atlas Oil Co.                        | East Hartford, CT    | Atlas Store                  | 2                                               | 18                  | 0                     |
| Aztex Enterprises                    | Knoxville, TN        | Aztex                        | 1                                               | 21                  | 0                     |
| B & B Cash Grocery Stores            | Tampa, FL            | Handy Food Store             | 1                                               | 33                  | 0                     |
| Baron Oil Co.                        | Jacksonville, FL     | Baron Convenient Plus        | 1                                               | 24                  | 0                     |
| Beard Co.                            | Boise, ID            | Go-Far                       | 1                                               | 6                   | 0                     |
| Bearden Oil Co.                      | Eastman, GA          | Shorty's Quick Shop          | 1                                               | 8                   | 3                     |
| Beck Suppliers                       | Sandusky, OH         | Friendship Convenience Store | 1                                               | 2                   | 0                     |
| Bedford Valley Petroleum Corp.       | Everett, PA          | RG's Food Shop               | 3                                               | 6                   | 0                     |
| Bell Fuels, Inc.                     | Chicago, IL          | Road Pilot/Road Pantry       | 1                                               | 9                   | 0                     |
| Berwick Bay Oil Co. Inc.             | Morgan City, LA      | Friends/Delta Mart           | 2                                               | 38                  | 2                     |
| Best Oil Co.                         | Pittsburgh, PA       | Tool-N-Scoot                 | 2                                               | 19                  | 0                     |
| Big Apple Food Stores                | South Paris, ME      | The Big Apple                | 2                                               | 43                  | 0                     |
| Bi-Rite Petroleum, Inc.              | St. Louis, MO        | Coastal Mart                 | 1                                               | 3                   | 0                     |
| Blaze Oil Co.                        | Casper, WY           | Common Cents                 | 1                                               | 5                   | 0                     |
| Boardman Petroleum Inc.              | Augusta, GA          | Smile Gas                    | 5                                               | 50                  | 0                     |
| Bosselman's Oil Co.                  | Grand Island, NE     | Pump & Pantry                | 1                                               | 34                  | 0                     |
| BP America, Inc.                     | Cleveland, OH        | BP Shop                      | 15                                              | 800                 | 0                     |
| Bradley, Inc.                        | Denver, CO           | Bradley Food Mart            | 2                                               | 19                  | 0                     |
| Broken Hill Prop./Pacific Resources  | Honolulu, HI         | Express Mart                 | 1                                               | N/A                 | N/A                   |
| Brooks Food Markets                  | Minnetonka, MN       | Brooks Food Market           | 1                                               | 32                  | 2                     |
| C.R. Brown Oil Co.                   | Grand Junction, CO   | Go-Fer Foods                 | 3                                               | 3                   | 16                    |
| Browning Oil Co.                     | Bowling Green, KY    | Shell Food Mart              | 1                                               | 10                  | 3                     |
| Burgess Marketing, Inc.              | Waco, TX             | Various                      | 1                                               | N/A                 | N/A                   |
| Bursaw Oil Corp.                     | Danvers, MA          | Pump 'N Pantry               | 1                                               | 8                   | 0                     |
| By-Lo Oil Co.                        | Port Huron, MI       | Speedy Q Market              | 1                                               | 15                  | 0                     |
| California-Fresno Oil Co.            | Fresno, CA           | Food Store                   | 1                                               | 2                   | 0                     |
| Callahan Oil Co.                     | New London, CT       | Grampy's                     | 6                                               | 22                  | 0                     |
| Camp Oil Co.                         | Rome, GA             | Smile/Sav-A-Ton              | 9                                               | 45                  | 0                     |
| Campbell Oil Co.                     | Massillon, OH        | Spee D Foods                 | 1                                               | 11                  | 28                    |
| Cannon Oil Corp.                     | Dothan, AL           | Cannon                       | 3                                               | 16                  | 0                     |
| Casey's General Stores, Inc.         | Des Moines, IA       | Casey's                      | 8                                               | 0                   | 202                   |
| Cel Oil Products Corp.               | North Charleston, SC | Unocal Mart                  | 1                                               | 7                   | 0                     |
| CENEX Petroleum, Inc.                | St. Paul, MN         | Cenex C-Store/Town Mart      | 12                                              | 20                  | 289                   |
| Centennial Liquor Stores             | Dallas, TX           | Quik Shop                    | 1                                               | 9                   | 0                     |
| Center Independent Oil Co.           | Smock, PA            | Sweet Peas                   | 1                                               | 5                   | 0                     |
| Certified Oil Co.                    | Columbus, OH         | Certified Mini Mart          | 1                                               | 18                  | 0                     |
| CF Marts of Pennsylvania             | Clarks Summit, PA    | Convenient Food Mart         | 1                                               | 4                   | 23                    |
| CFM Development Corp.                | Wheeling, WV         | Convenient Food Mart         | 2                                               | 1                   | 28                    |
| Champlain Oil Co.                    | South Burlington, VT | Colonial Deli Mart           | 4                                               | 74                  | 0                     |
| Chapman, Inc.                        | Sherman, TX          | Food Mart                    | 1                                               | 5                   | 10                    |
| Chevron USA, Inc.                    | San Francisco, CA    | Chevron FoodMart             | 25                                              | 516                 | 514                   |
| Chico Dairy, Inc.                    | Morgantown, WV       | Dairy Mart Foods             | 4                                               | 39                  | 0                     |
| Chiles Oil, Inc.                     | Pulaski, TN          | Snappy's/Parkway Market      | 1                                               | 2                   | 0                     |
| CHR Corp.                            | York, PA             | Rutter's Farm Store          | 1                                               | 51                  | 0                     |
| Christy's Markets, Inc.              | Brockton, MA         | Christy's                    | 4                                               | 116                 | 18                    |
| Circle C Food Stores                 | Huntsville, AL       | Circle C Food Store          | 1                                               | N/A                 | N/A                   |
| The Circle K Corp.                   | Phoenix, AZ          | Circle K Convenience Store   | 32                                              | 0                   | 63                    |
| Citgo Petroleum Corp.                | Tulsa, OK            | Quik Mart/Citgo Quick Mart   | 2                                               | 15                  | 0                     |
| Clark Oil & Refining Corp.           | St. Louis, MO        | Clark                        | 12                                              | N/A                 | N/A                   |
| Clipper Petroleum, Inc.              | Gainesville, GA      | Circle M Food Mart           | 1                                               | 19                  | 0                     |
| Cloud Enterprises, Inc.              | Pell City, AL        | Cloud Cupboards              | 1                                               | 29                  | 0                     |
| Coastal Refining and Marketing, Inc. | Houston, TX          | Coastal Mart                 | 28                                              | N/A                 | N/A                   |
| CoCo Marts, Inc.                     | Burlington, VT       | Jiffy Mart                   | 3                                               | 17                  | 0                     |
| CoGo's Co.                           | Pittsburgh, PA       | CoGo's                       | 1                                               | 65                  | 0                     |
| Colonial Oil Industries, Inc.        | Savannah, GA         | Enmark                       | 3                                               | 7                   | 0                     |
| Comet Oil Co.                        | Savannah, GA         | Comet                        | 2                                               | 2                   | 0                     |
| Como Oil Co.                         | Duluth, MN           | Milk House                   | 2                                               | 3                   | 12                    |
| Conoco Inc.                          | Houston, TX          | Conoco/Jet                   | 22                                              | N/A                 | N/A                   |
| Consumers Gasoline Stations, Inc.    | Nashville, TN        | Scott/Consumer               | 3                                               | 45                  | 0                     |

KEY: N/A Precise figures not disclosed by company ? Plan to add C-stores, but exact number unknown — Does not pertain

# Store Summary

| 1989<br>Total | 1990<br>Total | 1991<br>Current | 1991<br>Projected | Additions<br>Projected<br>in 1992 | Number<br>With<br>Gasoline | Avg. Gasoline Volume |               | Size Sq. Ft |              |
|---------------|---------------|-----------------|-------------------|-----------------------------------|----------------------------|----------------------|---------------|-------------|--------------|
|               |               |                 |                   |                                   |                            | Per Store            | Per Month     | Mini        | Full         |
| N/A           | N/A           | 48              | ?                 | 3                                 | 3                          | —                    | N/A           | —           | 2,500        |
| 95            | 90            | 76              | 69                | 0                                 | 71                         | N/A                  | N/A           | 800         | 2,000        |
| 33            | 39            | 39              | N/A               | 0                                 | 39                         | N/A                  | N/A           | N/A         | N/A          |
| N/A           | 31            | 31              | ?                 | ?                                 | 24                         | —                    | N/A           | —           | N/A          |
| 55            | 63            | 55              | 62                | 0                                 | 55                         | —                    | 80,000        | —           | 3,200        |
| 300           | 305           | 305             | 305               | 0                                 | 305                        | N/A                  | N/A           | 600         | 2,400        |
| N/A           | 100           | 127             | 140               | 20                                | 127                        | —                    | 150,000       | —           | 1,200        |
| 25            | 30            | 34              | 36                | 1                                 | 33                         | N/A                  | N/A           | 900         | 2,000        |
| N/A           | N/A           | 64              | 69                | 5-10                              | 64                         | 220,000              | —             | N/A         | —            |
| 1,200         | 1,902         | 1,847           | N/A               | N/A                               | 1,847                      | 120,000              | —             | 1,000       | —            |
| 720           | 731           | 752             | N/A               | N/A                               | 746                        | N/A                  | N/A           | 800         | 1,800/1,900  |
| 13            | 14            | 15              | 15                | 0                                 | 15                         | —                    | 60,000        | —           | 2,400        |
| 595           | 601           | 662             | N/A               | N/A                               | 600                        | —                    | N/A           | N/A         | 1,800/4,000+ |
| N/A           | 18            | 18              | 18                | 0                                 | 18                         | 150,000              | —             | 700/800     | —            |
| 36            | 31            | 21              | 21                | 0                                 | 21                         | 100,000              | 60,000        | 800         | 1,500        |
| 37            | 34            | 33              | 35                | ?                                 | 31                         | N/A                  | N/A           | N/A         | N/A          |
| N/A           | 16            | 24              | 50                | 0                                 | 24                         | —                    | N/A           | —           | 1,500        |
| 5             | 6             | 6               | 7                 | 1                                 | N/A                        | 75,000               | 75,000        | 800         | 1,300/3,000  |
| N/A           | 11            | 11              | 11                | 0                                 | 11                         | —                    | N/A           | —           | 1,800/2,000  |
| 0             | 1             | 2               | 2                 | 1                                 | 2                          | —                    | 150,000       | —           | 1,800        |
| 2             | 5             | 6               | 8                 | 1-2                               | 6                          | 50,000               | 55,000        | 800         | 1,400        |
| 8             | 10            | 9               | 9                 | 0                                 | 9                          | N/A                  | N/A           | 500         | N/A          |
| 40            | 38            | 40              | 41                | 1                                 | 38                         | 53,000               | 53,000        | 800         | 2,000        |
| 14            | 18            | 19              | 19                | 0                                 | 19                         | N/A                  | N/A           | N/A         | N/A          |
| N/A           | 38            | 43              | 47                | 5                                 | 43                         | —                    | 35,000        | —           | 1,200        |
| 3             | 3             | 3               | 5                 | 2                                 | 3                          | 50,000               | 100,000       | 900         | 1,300        |
| 5             | 5             | 5               | 5                 | 1                                 | 5                          | N/A                  | N/A           | 800         | 2,500        |
| 27            | 42            | 50              | 52                | 3                                 | 44                         | 150,000              | 200,000       | 600         | 2,000        |
| N/A           | 33            | 34              | 35                | ?                                 | 34                         | —                    | 50,000        | —           | 2,400        |
| 700           | 750           | 800             | 825               | 35                                | 800                        | 150,000              | 150,000       | 650         | 1,200        |
| 19            | 19            | 19              | ?                 | ?                                 | 19                         | —                    | 180,000       | —           | 1,800        |
| N/A           | N/A           | 10              | N/A               | N/A                               | N/A                        | N/A                  | N/A           | N/A         | N/A          |
| 27            | 30            | 32              | 34                | 3-5                               | 30                         | —                    | 60,000        | —           | 3,000        |
| N/A           | 19            | 19              | 21                | 2                                 | 19                         | —                    | 65,000        | —           | 2,400        |
| 10            | 13            | 13              | 14                | 1                                 | 13                         | 59,000               | 79,000        | 800         | 1,500        |
| N/A           | N/A           | 50              | N/A               | N/A                               | 50                         | N/A                  | N/A           | N/A         | N/A          |
| 6             | 8             | 8               | 10                | ?                                 | 8                          | N/A                  | N/A           | 800         | 2,400        |
| N/A           | N/A           | 15              | ?                 | ?                                 | 13                         | —                    | N/A           | —           | N/A          |
| 1             | 2             | 2               | 2                 | —                                 | —                          | 165,000              | 125,000       | 900         | 2,700        |
| N/A           | 21            | 21              | 22                | 3                                 | 22                         | —                    | 80,000        | —           | up to 6,000  |
| N/A           | 47            | 45              | 46-49             | ?                                 | 47                         | N/A                  | N/A           | N/A         | 1,800/2,400  |
| 45            | 45            | 39              | ?                 | ?                                 | 14                         | 75,000               | 80,000        | —           | 2,300/3,300  |
| 16            | 16            | 16              | 16                | 0                                 | 16                         | —                    | 75,000        | —           | 1,800        |
| 732           | 769           | 781             | 800               | 30                                | 781                        | —                    | 38,000        | —           | 2,375        |
| N/A           | 6             | 7               | N/A               | ?                                 | 7                          | —                    | 125,000       | —           | N/A          |
| 225           | 309           | 309             | 337               | 27                                | 309                        | 38,000               | 60,000        | 800         | 2,200        |
| 8             | 9             | 9               | ?                 | ?                                 | 5                          | N/A                  | N/A           | N/A         | N/A          |
| 4             | 4             | 5               | ?                 | ?                                 | 5                          | —                    | —             | —           | —            |
| N/A           | 15            | 18              | 22                | ?                                 | 18                         | —                    | N/A           | —           | 2,400        |
| 27            | 26            | 27              | 3                 | 3-5                               | 6                          | —                    | N/A           | —           | 3,200        |
| 29            | 29            | 29              | 31                | 1-3                               | 1                          | —                    | N/A           | —           | 3,500        |
| 53            | 72            | 74              | 8                 | 0                                 | 74                         | 50,000               | 45,000        | —           | 2,400        |
| 15            | 15            | 15              | 18                | 3                                 | 15                         | 40,000               | 60,000        | 800         | 1,500        |
| N/A           | 1,030         | 1,030           | 1,080             | 50                                | 1,030                      | 150,000              | 150,000       | 600         | 1,200        |
| 39            | 39            | 39              | 36                | 3                                 | 33                         | N/A                  | —             | N/A         | —            |
| 2             | 2             | 2               | 2                 | 0                                 | 2                          | —                    | 25,000        | —           | 2,100        |
| 49            | 51            | 51              | 52                | 3                                 | 32                         | —                    | 58,000        | —           | 2,400        |
| N/A           | 132           | 134             | 136               | 10                                | 32                         | —                    | 50,000        | —           | 2,600        |
| N/A           | 34            | 30              | ?                 | ?                                 | 29                         | —                    | 11,000        | —           | 1,400        |
| 4,664         | 4,783         | 3,859           | 3,600             | 0                                 | 3,186                      | 30,000               | 40,000        | 900         | 2,800        |
| N/A           | 16            | 15              | 15                | ?                                 | 15                         | 125,000              | 200,000       | 400         | 2,400        |
| N/A           | N/A           | 905             | N/A               | N/A                               | 905                        | N/A                  | —             | 300/900     | —            |
| N/A           | 19            | 19              | 20                | 1                                 | 18                         | 100,000              | 75,000        | 900         | 2,350        |
| N/A           | 59            | 29              | 29                | ?                                 | 29                         | —                    | N/A           | —           | 2,000        |
| N/A           | N/A           | 572             | N/A               | N/A                               | 572                        | 60,000               | 60,000        | N/A         | 2,000        |
| N/A           | 16            | 17              | 16                | 1-2                               | 15                         | —                    | 35,000/40,000 | —           | 2,400/2,800  |
| N/A           | 65            | 65              | 68                | 3                                 | 22                         | —                    | N/A           | —           | 2,400        |
| 6             | 6             | 7               | 6                 | 0                                 | 6                          | 100,000              | 200,000       | 500         | 3,000        |
| 2             | 2             | 2               | 2                 | 0                                 | 2                          | 35,000               | —             | 500         | —            |
| 12            | 15            | 15              | 16                | 0                                 | 15                         | —                    | 55,000        | —           | 1,800        |
| 477           | 476           | 476             | 494               | 17                                | 476                        | 91,000               | —             | 1,000       | —            |
| N/A           | 43            | 45              | 45                | ?                                 | 45                         | 45,000               | N/A           | N/A         | N/A          |



## C-Store Summary (Cont.)

| Company                            | H.Q. Location      | C-Store Name                                                        | No. of States<br>Where<br>Stores Are<br>Located | Company<br>Operated | Franchise<br>Operated |
|------------------------------------|--------------------|---------------------------------------------------------------------|-------------------------------------------------|---------------------|-----------------------|
| Consumers Oil                      | Trenton, NJ        | Hightstown Texaco                                                   | 1                                               | 0                   | 1                     |
| Con Sun Food Industries            | Elyria, OH         | Convenient Food Mart                                                | 1                                               | 14                  | 22                    |
| Contemporary Industries Corp.      | Omaha, NE          | 7-Eleven                                                            | 7                                               | 93                  | 22                    |
| Convenience Marketers Inc.         | Bessemer, AL       | JR. Food Mart                                                       | 2                                               | 23                  | 0                     |
| Convenient Food Mart               | Schaumburg, IL     | Convenient Food Mart                                                | 16                                              | 30                  | 449                   |
| Convenient Petroleum Corp.         | East Hartford, CT  | Petro Panty Foods                                                   | 1                                               | 9                   | 0                     |
| Country Cupboard Food Stores, Inc. | Dawsonville, GA    | Country Cupboard                                                    | 1                                               | 41                  | 0                     |
| Country Fair, Inc.                 | Erie, PA           | Country Fair                                                        | 3                                               | N/A                 | N/A                   |
| Cox Oil Co.                        | Union City, TN     | Little General                                                      | 1                                               | 24                  | 0                     |
| Cracker Barrel Stores, Inc.        | Baton Rouge, LA    | Cracker Barrel                                                      | 1                                               | 61                  | 0                     |
| Crown Central Petroleum Corp.      | Baltimore, MD      | Crown/Fast Fare/Zippy Mart                                          | 9                                               | 467                 | 97(a)                 |
| Crown Oil Co.                      | Minneapolis, MN    | E-Z Stop                                                            | 3                                               | 26                  | 0                     |
| Crystal Flash Petroleum            | Indianapolis, IN   | CF Deli Bake                                                        | 1                                               | 24                  | 0                     |
| Cumberland Farms, Inc.             | Canton, MA         | Cumberland Farms                                                    | 11                                              | 1,118               | 0                     |
| Curt's Oil Co., Inc.               | Muskogee, OK       | Curt's                                                              | 3                                               | 13                  | 0                     |
| Curtis Parker Oil Co. Inc.         | Shreveport, LA     | Various                                                             | 1                                               | 4                   | 0                     |
| Dairy Mart Convenience Stores      | Enfield, CT        | Dairy Mart Convenience Store                                        | 11                                              | 724                 | 465                   |
| Davis Co. Inc.                     | Perry, GA          | Qwik Stop Food Plus                                                 | 1                                               | 20                  | 0                     |
| J.M. Davis Inc.                    | Morehead City, NC  | Jim Dandy/Handy House                                               | 1                                               | 19                  | 0                     |
| Day & Night Food Stores, Inc.      | Vestal, NY         | Day & Night Food Store                                              | 1                                               | 18                  | 0                     |
| Dead River Oil Co.                 | Rumford, ME        | Food Trends                                                         | 2                                               | 9                   | 0                     |
| DeBlois Oil Co.                    | Providence, RI     | DB Mart                                                             | 2                                               | 29                  | 0                     |
| Delicatessen Dist. Inc.            | Pittsburgh, PA     | Isaly's Store                                                       | 2                                               | 0                   | 20                    |
| Delta Sonic Carwash Systems        | Buffalo, NY        | Kiss Mart                                                           | 2                                               | 19                  | 0                     |
| Diamond Shamrock                   | San Antonio, TX    | Corner Store                                                        | 3                                               | N/A                 | N/A                   |
| Dickey Inc.                        | Packwood, IA       | Dickey Prairie Home                                                 | 1                                               | 1                   | 0                     |
| Dilmar Oil Co.                     | Latta, SC          | Food Chief C-Store                                                  | 1                                               | 22                  | 0                     |
| District Petroleum Products        | Sandusky, OH       | Hy-Miler Food Store                                                 | 1                                               | 23                  | 2                     |
| Dixie Oil Co.                      | Tifton, GA         | Dixie Food Store                                                    | 3                                               | 68                  | 0                     |
| Down East Energy Co.               | Brunswick, ME      | Puffin' Stop                                                        | 2                                               | 22                  | 0                     |
| Drakes Refinery Stations           | Lansing, MI        | Drakes Market Plus                                                  | 1                                               | 16                  | 0                     |
| Dunn Oil Co.                       | Salt Lake City, UT | Dunn's Kwik                                                         | 1                                               | 6                   | 0                     |
| East Coast Oil Corp.               | Richmond, VA       | East Coast                                                          | 1                                               | 35                  | 0                     |
| Eastern Fuels, Inc.                | Ahoskie, NC        | Red Apple                                                           | 2                                               | 43                  | 0                     |
| Emro Marketing Co.                 | Springfield, OH    | Speedway/Starvin Marvin/Bonded/<br>ECOL/Port/United/Checker/Gastown | 16                                              | 1,168               | 0                     |
| Englefield Oil Co.                 | Newark, OH         | Duchess Shoppe                                                      | 2                                               | 53                  | 0                     |
| Entrepreneur Inc.                  | Wilmington, NC     | Scotchman's Store                                                   | 5                                               | 159                 | 0                     |
| Erickson Oil Products, Inc.        | Hudson, WI         | Freedom Value Center                                                | 4                                               | 45                  | 0                     |
| Evans Group                        | Lebanon, NH        | Evans Express Mart                                                  | 2                                               | 7                   | 0                     |
| Ever Ready Oil Co.                 | Albuquerque, NM    | Various                                                             | 1                                               | 10                  | 0                     |
| Express Lane, Inc.                 | Panama City, FL    | Express Lane                                                        | 2                                               | 30                  | 0                     |
| Exxon Company, USA                 | Houston, TX        | Exxon Shop                                                          | 27                                              | 346                 | 350                   |
| EZ Mart Stores, Inc.               | Texas Kana, TX     | EZ Mart                                                             | 5                                               | 324                 | 0                     |
| E-Z Serve Inc.                     | Kingsville, TX     | Stop-N-Shop                                                         | 1                                               | 55                  | 0                     |
| Farm & Home Oil Co.                | Telford, PA        | Farm & Home Corner Store                                            | 1                                               | 5                   | 0                     |
| Farm Fresh, Inc.                   | Wheeling, WV       | Farm Fresh, Inc.                                                    | 2                                               | 17                  | 0                     |
| Farmland Industries                | Kansas City, MO    | AmPride                                                             | 9                                               | 6                   | 20                    |
| Farm Stores, Inc.                  | Miami, FL          | Farm Store                                                          | 1                                               | 228                 | 0                     |
| Fas Mart Convenience Stores        | Mechanicsville, VA | Fas Mart                                                            | 1                                               | 42                  | 0                     |
| Favorite Market                    | Dalton, GA         | Favorite Market                                                     | 3                                               | N/A                 | N/A                   |
| Fearless Farris Oil Co.            | Boise, ID          | Handi Mart                                                          | 3                                               | 32                  | 0                     |
| FINA Oil & Chemical Co.            | Dallas, TX         | FINAMART                                                            | 7                                               | 148                 | 0                     |
| FKG Oil Co.                        | Belleville, IL     | Moto Mart                                                           | 6                                               | 51                  | 0                     |
| Flash Foods, Inc.                  | Waycross, GA       | Flash Foods                                                         | 2                                               | 94                  | 0                     |
| Fleming Petroleum, Inc.            | Pittsburg, KS      | Short Stop                                                          | 1                                               | 4                   | 0                     |
| Fleet Oil Co.                      | Norcross, GA       | Fleet                                                               | 2                                               | 7                   | 6                     |
| Flying J, Inc.                     | Brigham City, UT   | Flying J, Inc.                                                      | 8                                               | 35                  | 3                     |
| Food N Fuel Inc.                   | Harvard, IL        | Food N Fuel                                                         | 1                                               | 3                   | 1                     |
| Food Spot Management               | Miami, FL          | Food Spot                                                           | 1                                               | N/A                 | N/A                   |
| Foster Oil Co.                     | Richmond, MI       | Sunrise Convenience Store                                           | 1                                               | 19                  | 0                     |
| Four Star Service Stations, Inc.   | Grand Rapids, MI   | Four Star Service Stations Store                                    | 1                                               | 10                  | 0                     |
| Fresh Way Food Stores              | Greenville, NC     | Fresh Way Food Store                                                | 1                                               | 22                  | 0                     |
| H.N. Funkhouser & Co.              | Winchester, VA     | Handy Mart                                                          | 1                                               | 11                  | 0                     |
| Garb Co Inc.                       | Saginaw, MI        | 7-Eleven Food Store                                                 | 4                                               | N/A                 | N/A                   |
| Gas America Services, Inc.         | Shirley, IN        | Gas America                                                         | 2                                               | 40                  | 0                     |
| Gasco Gasoline, Inc.               | Oxnard, CA         | Gasco Mart                                                          | 2                                               | N/A                 | —                     |
| Gas Mart                           | Elizabethtown, NC  | Minute-Man Food Mart                                                | 1                                               | 11                  | 0                     |
| Gas N Shop Inc.                    | Lincoln, NE        | Gas-N-Shop                                                          | 2                                               | N/A                 | N/A                   |
| Gate Marketing                     | Jacksonville, FL   | Gate Food Post                                                      | 9                                               | 128                 | 0                     |
| Geldbach Petroleum Co., Inc.       | Valley Park, MO    | Stop Buy                                                            | 1                                               | 2                   | 0                     |
| General Oil                        | Gatesville, AR     | Quik Mart                                                           | 1                                               |                     |                       |
| Getty Petroleum Corp.              | Plainview, NY      | Getty Mart                                                          | 10                                              | 135                 | 174                   |
| Giant Industries, Inc.             | Phoenix, AZ        | Giant Food Store                                                    | 3                                               | 44                  | 0                     |
| Golden Gallon, Inc.                | Chattanooga, TN    | Golden Gallon                                                       | 2                                               | 105                 | 0                     |
| Golden Pantry Food Stores          | Athens, GA         | Golden Pantry Food Stores                                           | 2                                               | 97                  | 0                     |
| Golub Corp.                        | Schenectady, NY    | Mini Chopper                                                        | 1                                               | 5                   | 0                     |
| Go-Mart, Inc.                      | Gassaway, WV       | Go-Mart Food Stores                                                 | 3                                               | 64                  | 0                     |
| Good Time Stores                   | El Paso, TX        | Good Time Stores                                                    | 1                                               | 41                  | 0                     |
| Gresham Petroleum, Inc.            | Indianola, MS      | Double Quick                                                        | 2                                               | 28                  | 0                     |

| 1989<br>Total | 1990<br>Total | 1991<br>Current | 1991<br>Projected | Additions<br>Projected<br>in 1992 | Number<br>With<br>Gasoline | Avg. Gasoline Volume<br>Per Store Per Month |               | Size Sq. Ft |             |
|---------------|---------------|-----------------|-------------------|-----------------------------------|----------------------------|---------------------------------------------|---------------|-------------|-------------|
|               |               |                 |                   |                                   |                            | Mini                                        | Full          | Mini        | Full        |
| N/A           | 3             | 1               | 1                 | 0                                 | 1                          | 70,000                                      | —             | 500         | —           |
| 38            | 37            | 36              | 36                | ?                                 | 4                          | —                                           | 45,000        | —           | 4,000       |
| N/A           | 115           | 115             | ?                 | ?                                 | 109                        | N/A                                         | N/A           | N/A         | 2,400       |
| 36            | 27            | 23              | 0                 | 0                                 | 22                         | —                                           | 15,000        | —           | 1,800       |
| N/A           | 491           | 479             | 481               | 8                                 | 79                         | —                                           | 44,000        | —           | 3,000       |
| 9             | 9             | 9               | 9                 | ?                                 | 9                          | —                                           | 100,000       | —           | 1,800       |
| 39            | 41            | 41              | 41                | ?                                 | 41                         | —                                           | 42,500        | —           | 2,400       |
| N/A           | N/A           | 50              | N/A               | N/A                               | 48                         | N/A                                         | N/A           | N/A         | N/A         |
| 23            | 25            | 24              | 23                | 3                                 | 23                         | N/A                                         | 50,000        | 900         | 2,300       |
| 56            | 58            | 61              | 59                | 0                                 | 59                         | 15,250                                      | N/A           | 500         | 2,800       |
| 580           | 605           | 564             | 548               | 20                                | 556                        | 108,600                                     | 31,500        | 408         | 2,500       |
| 24            | 24            | 26              | 27                | 2                                 | 26                         | —                                           | N/A           | —           | 2,000       |
| 24            | 25            | 24              | 24                | 0                                 | 24                         | 60,000                                      | 100,000       | 600         | 2,000       |
| 1,075         | 1,100         | 1,118           | ?                 | ?                                 | 765                        | N/A                                         | N/A           | N/A         | N/A         |
| 13            | 13            | 13              | 13                | 0                                 | 13                         | 120,000                                     | —             | 700         | —           |
| 4             | 4             | 4               | 4                 | ?                                 | 4                          | 16,000                                      | 27,500        | N/A         | N/A         |
| N/A           | 1,189         | 1,189           | 1,170             | 20                                | 458                        | —                                           | 35,500        | —           | 2,400       |
| N/A           | 19            | 20              | 24                | 4                                 | 20                         | 95,000                                      | 75,000        | 300         | 2,000       |
| 20            | 19            | 19              | 19                | ?                                 | 18                         | N/A                                         | N/A           | N/A         | N/A         |
| 18            | 18            | 18              | 18                | 1                                 | 17                         | —                                           | 44,000        | —           | 1,800       |
| 9             | 9             | 9               | 9                 | 1-2                               | 9                          | —                                           | 80,000        | —           | 1,000/1,500 |
| 12            | 16            | 29              | 29                | ?                                 | 29                         | —                                           | 65,000        | —           | 2,200       |
| 24            | 20            | 20              | 20                | 0                                 | 2                          | —                                           | N/A           | —           | 2,000       |
| 17            | 19            | 19              | 19                | 3                                 | 19                         | N/A                                         | N/A           | 500         | 1,700       |
| 617           | 680           | 763             | ?                 | ?                                 | 763                        | 75,207                                      | 93,202        | 796         | 1,600       |
| N/A           | N/A           | 1               | ?                 | ?                                 | 1                          | N/A                                         | N/A           | N/A         | N/A         |
| 15            | 21            | 22              | 24                | ?                                 | 22                         | N/A                                         | N/A           | N/A         | N/A         |
| N/A           | N/A           | 25              | ?                 | ?                                 | 25                         | —                                           | N/A           | —           | N/A         |
| N/A           | 68            | 68              | 69                | 2                                 | 68                         | —                                           | N/A           | —           | 2,400       |
| 17            | 19            | 22              | 24                | 2                                 | 22                         | N/A                                         | N/A           | 900         | 1,800       |
| 17            | 18            | 16              | 16                | ?                                 | 15                         | 35,000                                      | 60,000        | 700         | 2,400       |
| 10            | 8             | 6               | 6                 | —                                 | 6                          | —                                           | 63,000/82,000 | —           | 2,400/3,000 |
| N/A           | N/A           | 35              | N/A               | ?                                 | 35                         | N/A                                         | N/A           | N/A         | N/A         |
| N/A           | 41            | 43              | 43                | 0                                 | 42                         | —                                           | N/A           | —           | 2,500       |
| 1,600         | 1,668         | 1,668           | ?                 | ?                                 | 1,668                      | 104,000                                     | 145,000       | 500/1,000   | 3,375       |
| 48            | 51            | 53              | 4-6               | 4-6                               | 53                         | N/A                                         | 88,000        | 800         | 1,500/2,000 |
| N/A           | 159           | 159             | 159               | 0                                 | 159                        | N/A                                         | N/A           | 600         | 3,000       |
| 45            | 45            | 45              | 47                | 3                                 | 45                         | —                                           | 80,000        | —           | 2,700       |
| N/A           | 7             | 7               | 7                 | 1                                 | 7                          | 50,000                                      | 160,000       | N/A         | 1,800       |
| 10            | 10            | 10              | 11                | ?                                 | 10                         | N/A                                         | N/A           | N/A         | 1,400       |
| N/A           | 30            | 30              | 32                | 2                                 | 30                         | —                                           | 40,000        | —           | 2,400       |
| 450           | 689           | 696             | ?                 | ?                                 | 696                        | —                                           | N/A           | —           | 1,100       |
| 296           | 290           | 324             | 325               | 20                                | 319                        | —                                           | N/A           | —           | 2,000       |
| 55            | 55            | 55              | ?                 | ?                                 | 55                         | —                                           | 50,000        | —           | 2,400       |
| 8             | 5             | 5               | 6                 | 2                                 | 5                          | 100,000                                     | 120,000       | 1,000       | 1,200       |
| N/A           | 17            | 17              | 17                | 0                                 | 11                         | —                                           | N/A           | —           | 2,000       |
| 7             | 18            | 26              | 29                | ?                                 | 26                         | 70,000                                      | 90,000        | 850         | 2,400       |
| N/A           | 261           | 228             | 227               | 0                                 | 78                         | 8,000                                       | 25,000        | 600         | 2,400       |
| N/A           | 41            | 42              | 46                | 3                                 | 42                         | —                                           | 90,000        | —           | 2,500       |
| N/A           | 84            | 86              | 90                | ?                                 | 83                         | —                                           | N/A           | —           | N/A         |
| 26            | 29            | 32              | 32                | 3-5                               | 32                         | —                                           | N/A           | —           | 1,600/2,200 |
| 157           | 150           | 148             | 155               | ?                                 | 148                        | 85,000                                      | 120,000       | 800         | 2,200       |
| 35            | 50            | 51              | 53                | 2                                 | 51                         | —                                           | 120,000       | —           | 2,400       |
| 96            | 98            | 94              | 95                | 5                                 | 94                         | —                                           | 50,000        | —           | 2,450       |
| 4             | 4             | 4               | 5                 | 0                                 | 4                          | 25,000                                      | 95,000        | 800         | 2,300       |
| 16            | 17            | 13              | 13                | ?                                 | 13                         | —                                           | N/A           | —           | 1,500       |
| 35            | 35            | 38              | 39                | ?                                 | 38                         | —                                           | N/A           | —           | 2,200       |
| 4             | 4             | 4               | 0                 | 1                                 | 4                          | —                                           | 120,000       | —           | 2,000       |
| N/A           | 42            | 40              | 43                | ?                                 | 5                          | —                                           | 40,000        | —           | 2,400       |
| 13            | 19            | 19              | 19                | 1                                 | 19                         | N/A                                         | N/A           | 900         | 2,500       |
| 11            | 10            | 10              | ?                 | ?                                 | 10                         | 70,000                                      | 350,000       | 1,000       | N/A         |
| 24            | 22            | 22              | 23                | 1                                 | 21                         | —                                           | 56,000        | —           | 2,400       |
| 8             | 10            | 11              | 12                | 0                                 | 11                         | —                                           | 100,000       | —           | 2,400       |
| N/A           | N/A           | 159             | ?                 | ?                                 | 18                         | —                                           | N/A           | —           | N/A         |
| N/A           | 40            | 40              | 40                | 0                                 | 40                         | N/A                                         | N/A           | N/A         | 1,500       |
| 10            | 13            | N/A             | ?                 | ?                                 | 11                         | 100,000                                     | 150,000       | N/A         | N/A         |
| N/A           | 11            | 11              | 11                | 1                                 | 11                         | 65,000                                      | 57,000        | 900         | 1,000+      |
| N/A           | 36            | 40              | ?                 | ?                                 | 40                         | —                                           | 50,000        | —           | N/A         |
| N/A           | 128           | 128             | 128               | 3                                 | 115                        | N/A                                         | N/A           | —           | 2,000       |
| 1             | 2             | 2               | 2                 | 1                                 | 2                          | —                                           | N/A           | —           | 1,800       |
| 33            | 29            | 31              | ?                 | ?                                 | ?                          | —                                           | 50,000        | —           | 1,400/3,000 |
| 454           | 578           | 561             | 575               | ?                                 | 521                        | 37,500                                      | 37,500        | 600         | 1,800       |
| 20            | 30            | 44              | 44                | ?                                 | 44                         | —                                           | N/A           | —           | 2,500       |
| N/A           | 105           | 105             | 112               | ?                                 | 96                         | —                                           | 100,000       | —           | N/A         |
| N/A           | N/A           | 97              | ?                 | ?                                 | 97                         | —                                           | N/A           | —           | N/A         |
| 5             | 5             | 5               | 5                 | 5                                 | 5                          | —                                           | 40,000        | —           | 1,000       |
| N/A           | 60            | 64              | 69                | 5                                 | 64                         | —                                           | 170,000       | —           | 2,650       |
| 39            | 41            | 41              | 41                | 0                                 | 40                         | —                                           | N/A           | —           | 2,400       |
| 26            | 28            | 28              | 30                | 2                                 | 27                         | —                                           | 33,000        | —           | 1,600       |

## COVER REPORT

## C-Store Summary (Cont.)

| Company                                   | H.Q. Location           | C-Store Name                          | No. of States<br>Where<br>Stores Are<br>Located | Company<br>Operated | Franchises<br>Operated |
|-------------------------------------------|-------------------------|---------------------------------------|-------------------------------------------------|---------------------|------------------------|
| Gull Industries Inc.                      | Seattle, WA             | Express Home Quik Stop                | 3                                               | 20                  | 12                     |
| Guttman Oil Co.                           | Belle Vernon, PA        | Crossroad Food Mart                   | 1                                               | 27                  | 0                      |
| Hallum Oil Co.                            | Flagstaff, AZ           | Hallum Store                          | 11                                              | 11                  | 0                      |
| Handee Marts Food Stores                  | Travelers Rest, SC      | Handy Mart                            | 1                                               | 18                  | 0                      |
| Handy Andy Pantries                       | Chattanooga, TN         | Handy Andy Pantry                     | 2                                               | 24                  | 0                      |
| Happy Food Stores, Inc.                   | Oklahoma City, OK       | Happy Food Store                      | 1                                               | 20                  | 0                      |
| Harper Oil Co.                            | Springfield, IL         | Harper                                | 1                                               | 22                  | 0                      |
| Harris Oil Co.                            | Portland, OR            | Shell Food Mart/BP Food Mart          | 1                                               | —                   | 2                      |
| Hawaiian Independent Refinery, Inc.       | Honolulu, HI            | Gas Express                           | 1                                               | 29                  | 0                      |
| Hawk Oil Co.                              | Medford, OR             | Tiger Mart                            | 1                                               | 2                   | 0                      |
| Herdich Petroleum Corp.                   | Rushville, IN           | Food Mart                             | 1                                               | 17                  | 0                      |
| Herkimer Petroleum Products               | Utica, NY               | Nice N Easy Grocery Shoppe            | 1                                               | 23                  | 0                      |
| Herndon Oil Co.                           | Abbeville, AL           | Herndon Oil Co.                       | 2                                               | 20                  | 0                      |
| Herndon Oil Corp.                         | Abbeville, AL           | Super C/Midi Mart/Shell Food Mart     | 3                                               | 36                  | 0                      |
| Highs Dairy Stores                        | Alexandria, VA          | High's Dairy Store                    | 5                                               | 192                 | 0                      |
| Angus I. Hines, Inc.                      | Suffolk, VA             | Sentry Food Mart                      | 3                                               | 32                  | 0                      |
| Holiday Oil Co.                           | West Valley City, UT    | Holiday Oil                           | 1                                               | 24                  | 0                      |
| Holiday Station Stores Inc.               | Minneapolis, MN         | Holiday Station Store                 | 7                                               | 222                 | 20                     |
| Holland Oil Co.                           | Akron, OH               | Gas N Shop                            | 1                                               | 31                  | 0                      |
| Honey's Inc.                              | Worcester, MA           | Honey Farms                           | N/A                                             | 43                  | —                      |
| Horkey Oil Co., Inc.                      | Lubbock, TX             | Friend's Convenience Store            | 1                                               | 21                  | 0                      |
| Howdy Doody Inc.                          | Denton, TX              | Howdy Doody, Inc.                     | 1                                               | 0                   | 20                     |
| Hudson Oil Co.                            | Tulsa, OK               | Hudson                                | 2                                               | 11                  | 0                      |
| Hughes Energy, Inc.                       | Daytona Beach, FL       | Sugarcreek                            | 1                                               | 9                   | 0                      |
| Hull Oil Co.                              | Panama City, FL         | JR Food Mart/Hull                     | 1                                               | 6                   | 0                      |
| Huntley Jiffy Stores                      | Orange Park, FL         | Lil' Champ Food Store                 | 2                                               | 480                 | 0                      |
| Imperial Oil Co.                          | Mt. Pleasant, MI        | Next Door Food Store                  | 2                                               | 36                  | 2                      |
| Independent Retailers Assn.               | Conroe, TX              | Independent Retailers Assn Coop, Inc. | 1                                               | 38                  | 0                      |
| Iowa Oil Co.                              | Dubuque, IA             | IOCO Speede Shoppe                    | 3                                               | 30                  | 7                      |
| J & L Oil Co.                             | Vernon Hills, IL        | J & L Food Mart                       | 3                                               | 29                  | 0                      |
| Jaco Oil Co.                              | Bakersfield, CA         | Fastrip Food Store                    | 2                                               | 10                  | 25                     |
| Jacobus Petroleum Products, Inc.          | Milwaukee, WI           | Jiffy Stop                            | 1                                               | 9                   | 3                      |
| JFM, Inc.                                 | Jackson, MS             | JR Food Mart                          | 18                                              | 110                 | 340                    |
| Jiffy Food Stores                         | Ocala, FL               | Jiffy Food Store                      | 1                                               | 20                  | 0                      |
| Jiffy Marts                               | Christiansted, VI       | Jiffy Mart                            | 3                                               | 17                  | 0                      |
| Jim Dandy Markets, Inc.                   | Nashville, TN           | Jim Dandy Markets Inc.                | 1                                               | 32                  | 0                      |
| Johnny's Quik Food                        | Fresno, CA              | Johnny's Quik Food Store              | 1                                               | 23                  | 0                      |
| Johnson Oil Co.                           | Columbus, IN            | Big Foot                              | 2                                               | 62                  | 0                      |
| R.L. Jordan Oil Co. of No. Carolina, Inc. | Spartanburg, NC         | Hot Spot                              | 3                                               | 36                  | 0                      |
| Junior Food Stores                        | Crestview, FL           | Tom Thumb Food Store                  | 2                                               | 104                 | 0                      |
| Jr. Food Stores, Inc.                     | Bowling Green, KY       | JR Food Store                         | 2                                               | 54                  | 0                      |
| Kalbab Industries                         | Phoenix, AZ             | Whiting                               | 1                                               | 18                  | 0                      |
| Kampgrounds of America, Inc.              | Billings, MT            | Kampgrounds of America                | 47                                              | 14                  | 636                    |
| Kangaroo, Inc.                            | Gainesville, GA         | Kangaroo Convenience Store            | 1                                               | 32                  | 0                      |
| L. Keller Oil Properties, Inc.            | Effingham, IL           | 7-Eleven/Super Food Store             | 1                                               | 35                  | 7                      |
| Kelley Williamson Co.                     | Rockford, IL            | Mobil Mart                            | 1                                               | 21                  | 0                      |
| Kenny's Markets                           | Richfield, MN           | Kenny's Market                        | 1                                               | N/A                 | N/A                    |
| Kent Distributors, Inc.                   | Midland, TX             | Kent Kwik                             | 1                                               | 17                  | 0                      |
| Kenyon Oil Co.                            | North Grosvenordale, CT | Xtra Mart                             | 7                                               | 127                 | 0                      |
| Kerr-McGee Refining Corp.                 | Houston, TX             | Kerr-McGee Food Shop                  | 19                                              | 51                  | N/A                    |
| Kimber Petroleum Corp.                    | Madison, NJ             | Kwik Pik/Mobil Mart                   | 1                                               | 4                   | 0                      |
| King & King Enterprises, Inc.             | Claycomb, MO            | King Super Store                      | 3                                               | 30                  | 0                      |
| Kocolene Oil Corp.                        | Seymour, IN             | Kocolene Fuel/Food Mart               | 2                                               | 20                  | 0                      |
| Krause Gentle Corp.                       | West Des Moines, IA     | Kum & Go                              | 6                                               | 140                 | 0                      |
| Krist Oil Co.                             | Iron River, MI          | Citgo Quik Food Mart                  | 2                                               | 35                  | 0                      |
| Kwickie Food Stores, Inc.                 | Macon, GA               | Kwickie Food Store                    | 1                                               | 52                  | 0                      |
| Kwik King Food Stores                     | Ocala, FL               | Kwik King Food Store                  | 1                                               | 54                  | 0                      |
| Kwik Sak                                  | Columbia, TN            | Kwik Sak                              | 1                                               | 33                  | 0                      |
| Kwik Shop, Inc.                           | Hutchinson, KS          | Kwik Shop, Inc.                       | 5                                               | 188                 | 11                     |
| Kwik Trip, Inc.                           | Lacrosse, WI            | Kwik Trip                             | 3                                               | 218                 | 0                      |
| Kwik Way, Inc.                            | Billings, MT            | Kwik Way                              | 1                                               | 0                   | 0                      |
| Landhope Farms                            | Kennett Square, PA      | Landhope Farms                        | 3                                               | 18                  | 0                      |
| Lassus Bros. Oil Inc.                     | Ft. Wayne, IN           | Handy Dandy Food Store                | 1                                               | 20                  | 0                      |
| LDD Corp.                                 | Palmyra, NY             | Palmart                               | 1                                               | 8                   | 0                      |
| Ledbetter Oil Co.                         | Marion, NC              | Rainbow Pantries                      | 1                                               | 6                   | 9                      |
| Carols R. Leffler                         | Richland, PA            | CR's Friendly Market                  | 1                                               | 36                  | 4                      |
| H.C. Lewis Oil Co.                        | Welch, WV               | Kwik Serv Food Mart                   | 1                                               | 5                   | 0                      |
| Lindner Dairy Centers                     | Indianapolis, IN        | Friendly Food Store                   | 1                                               | 9                   | 0                      |
| Lipscomb Oil Co., Inc.                    | Greenville, MS          | Exxon Shoppe                          | 2                                               | 16                  | 0                      |
| Little Chef Stores                        | Jacksonville, FL        | Little Champ Food Store               | 2                                               | 560                 | 0                      |
| Little Food Town                          | Lakeland, FL            | Little Food Town                      | 1                                               | 3                   | 0                      |
| Loaf N Jug                                | Pueblo, CO              | Loaf N Jug                            | 3                                               | 69                  | 0                      |
| Lowes Food Stores Inc.                    | Winston-Salem, NC       | Run-In Foods                          | 1                                               | 21                  | 0                      |
| The Lyden Co.                             | Youngstown, OH          | Fast Check Food Mart                  | 1                                               | 55                  | 0                      |
| Lykins Oil Co.                            | Milford, OH             | Lykins/Friends                        | 2                                               | 6                   | 3                      |
| Mapco Petroleum, Inc.                     | Tulsa, OK               | Mapco Express/Delta Express           | 10                                              | 320                 | 110                    |
| Marathon Oil Co.                          | Springfield, OH         | Various                               | N/A                                             | N/A                 | N/A                    |
| Maritime Energy Co.                       | Rockland, ME            | Maritime Farms                        | 1                                               | 5                   | 0                      |
| Marsh Village Pantries, Inc.              | Indianapolis, IN        | Village Pantry                        | 1                                               | 170                 | 0                      |
| Martin & Bayley Inc.                      | Carmi, IL               | Huck's Convenience Store              | 5                                               | 91                  | 5                      |

| 1989<br>Total | 1990<br>Total | 1991<br>Current | 1991<br>Projected | Additions<br>Projected<br>in 1992 | Number<br>With<br>Gasoline | Avg. Gasoline Volume<br>Per Store Per Month |               | Size Sq. Ft |             |
|---------------|---------------|-----------------|-------------------|-----------------------------------|----------------------------|---------------------------------------------|---------------|-------------|-------------|
|               |               |                 |                   |                                   |                            | Mini                                        | Full          | Mini        | Full        |
| 60            | 32            | 32              | 32                | —                                 | —                          | 30,000                                      | 100,000       | 600/1,000   | 2,000       |
| N/A           | 27            | 27              | 27                | 4-5                               | 26                         | —                                           | 10,000/30,000 | —           | 1,000+      |
| 8             | 10            | 11              | 11                | —                                 | —                          | N/A                                         | N/A           | 200/600     | 1,400/3,000 |
| N/A           | 19            | 18              | ?                 | ?                                 | 14                         | N/A                                         | N/A           | N/A         | N/A         |
| 35            | 35            | 24              | 24                | 5                                 | 24                         | N/A                                         | 50,000/75,000 | 800         | 2,500       |
| N/A           | 20            | 20              | 22                | ?                                 | 19                         | —                                           | ?             | —           | 2,000       |
| 22            | 22            | 22              | 24                | 2                                 | 22                         | —                                           | 106,000       | —           | 1,400       |
| 1             | 2             | 2               | 2                 | 0                                 | 2                          | 110,000                                     | 100,000       | 500         | 1,000       |
| N/A           | N/A           | 29              | N/A               | N/A                               | 29                         | —                                           | N/A           | —           | N/A         |
| 2             | 3             | 2               | 2                 | 2                                 | 2                          | —                                           | N/A           | —           | 2,000       |
| 15            | 16            | 17              | 17                | 1                                 | 16                         | N/A                                         | N/A           | 800         | 2,500       |
| N/A           | 20            | 23              | 25                | 2                                 | 23                         | 60,000                                      | 50,000        | 900         | 1,300       |
| 22            | 22            | 20              | 20                | 0                                 | 20                         | —                                           | N/A           | —           | 1,500       |
| 23            | 24            | 36              | 38                | 3                                 | 37                         | —                                           | N/A           | —           | 1,800/2,000 |
| 220           | 220           | 192             | ?                 | ?                                 | 20                         | —                                           | N/A           | —           | 1,000+      |
| 31            | 31            | 32              | 34                | 2                                 | 32                         | —                                           | 65,000        | —           | 1,400       |
| N/A           | 25            | 24              | 25                | ?                                 | 23                         | —                                           | N/A           | —           | N/A         |
| 225           | 232           | 242             | 248               | 15                                | 242                        | —                                           | N/A           | —           | 4,000       |
| 25            | 28            | 31              | 34                | ?                                 | 31                         | —                                           | N/A           | —           | 1,200       |
| N/A           | N/A           | 43              | ?                 | ?                                 | 5                          | —                                           | N/A           | —           | N/A         |
| 17            | 20            | 21              | ?                 | 5                                 | 26                         | —                                           | 100,000       | —           | 3,000       |
| 24            | 21            | 20              | 20                | 0                                 | 17                         | —                                           | N/A           | —           | 1,800       |
| 11            | 11            | 11              | 11                | ?                                 | 9                          | N/A                                         | —             | 400         | —           |
| 14            | 10            | 9               | 9                 | 9                                 | 9                          | —                                           | 60,000        | —           | 2,000       |
| 5             | 5             | 6               | 4                 | 2                                 | 6                          | 75,000                                      | 50,000        | 1,000       | 2,400       |
| N/A           | 319           | 480             | 480               | 5-6                               | N/A                        | N/A                                         | N/A           | N/A         | N/A         |
| 37            | 38            | 38              | 38                | ?                                 | 36                         | —                                           | 125,000       | —           | 2,000       |
| 44            | 38            | 38              | 38                | ?                                 | 38                         | —                                           | N/A           | —           | 2,400       |
| 36            | 36            | 37              | 37                | ?                                 | 37                         | —                                           | 58,700        | —           | 1,800/3,000 |
| 31            | 24            | 29              | 30-33             | ?                                 | 29                         | —                                           | 100,000       | —           | 2,000       |
| 35            | 35            | 35              | 40                | 0                                 | 35                         | —                                           | 100,000       | —           | 3,200       |
| 8             | 12            | 12              | 12                | 2                                 | 12                         | —                                           | 85,000        | —           | 1,500       |
| 390           | 420           | 450             | 470               | ?                                 | 400                        | —                                           | N/A           | —           | 2,000/2,400 |
| 23            | 20            | 20              | 20                | 0                                 | 20                         | —                                           | N/A           | —           | 2,400       |
| N/A           | 15            | 17              | 18                | 2                                 | 16                         | —                                           | 36,000        | —           | 2,500       |
| 32            | 32            | 32              | 32                | 0                                 | 32                         | —                                           | 50,000        | —           | 2,000       |
| 23            | 23            | 23              | 24                | ?                                 | 23                         | —                                           | 76,296        | —           | 2,400       |
| 49            | 49            | 62              | 79                | 5                                 | 62                         | —                                           | 75,000        | —           | 1,500       |
| 35            | 35            | 36              | 39                | 6                                 | 36                         | 99,000                                      | 94,000        | 400         | 3,740       |
| 105           | 102           | 104             | 102               | ?                                 | 96                         | —                                           | N/A           | —           | 2,000       |
| 54            | 54            | 54              | 52                | 3                                 | 50                         | —                                           | N/A           | —           | 3,000       |
| 18            | 18            | 18              | 18                | ?                                 | 25                         | N/A                                         | N/A           | 600         | 1,500/2,000 |
| 643           | 650           | 650             | 656               | 15                                | N/A                        | N/A                                         | N/A           | 700         | 1,500       |
| 29            | 31            | 32              | 34                | 2                                 | 32                         | —                                           | 58,000        | —           | 2,200       |
| 36            | 43            | 42              | 52                | 9                                 | 42                         | 68,000                                      | 74,000        | 860         | 1,820       |
| N/A           | N/A           | 21              | ?                 | 2                                 | 21                         | 125,000                                     | N/A           | 900         | 1,800       |
| N/A           | N/A           | 24              | ?                 | ?                                 | 3                          | N/A                                         | N/A           | N/A         | N/A         |
| 15            | 17            | 17              | ?                 | ?                                 | 17                         | —                                           | N/A           | —           | 2,000       |
| 70            | 123           | 127             | 138               | 10                                | 127                        | 93,000                                      | 52,000        | 600         | 1,300       |
| N/A           | 1,039         | 1,046           | 1,043             | 10                                | 1,043                      | 30,000                                      | 77,000        | 700         | 1,200       |
| 3             | 3             | 4               | 5                 | ?                                 | 4                          | N/A                                         | 150,000       | 750         | 3,500       |
| 30            | 30            | 30              | ?                 | ?                                 | 30                         | —                                           | N/A           | —           | 2,200       |
| 17            | 17            | 20              | 22                | 3                                 | 20                         | —                                           | N/A           | —           | 2,300       |
| 137           | 138           | 140             | 146               | 6-8                               | 139                        | N/A                                         | N/A           | 800/900     | 1,800       |
| 28            | 33            | 35              | 36                | 2                                 | 35                         | —                                           | 65,000        | —           | 2,200       |
| 53            | 52            | 52              | 53                | 3-4                               | 52                         | —                                           | 5,000         | —           | 2,300       |
| 54            | 55            | 54              | 54                | 0                                 | 53                         | —                                           | N/A           | —           | 2,500       |
| 30            | 33            | 33              | 33                | ?                                 | 32                         | —                                           | N/A           | —           | 2,500       |
| 210           | 209           | 209             | 210               | 1                                 | 188                        | —                                           | 45,000        | —           | 3,000       |
| 192           | 199           | 219             | 235               | 15                                | 218                        | —                                           | N/A           | —           | 2,500       |
| 21            | 21            | 21              | 22                | ?                                 | 21                         | —                                           | 35,000        | —           | 2,400       |
| 20            | 18            | 20              | 18                | ?                                 | 14                         | —                                           | N/A           | —           | 2,500       |
| 18            | 20            | 20              | 20                | 0                                 | 20                         | —                                           | 88,000        | —           | 1,800       |
| 9             | 9             | 8               | 11                | 3                                 | 8                          | —                                           | 75,000        | —           | 2,000       |
| 15            | 15            | 15              | 15                | ?                                 | 15                         | —                                           | 40,000        | —           | 1,200       |
| N/A           | N/A           | 40              | 50                | 10                                | 40                         | —                                           | N/A           | —           | 2,800       |
| 4             | 4             | 5               | 6                 | 1                                 | 5                          | 75,000                                      | 100,000       | 900         | 2,000       |
| 9             | 9             | 9               | 9                 | 1                                 | 5                          | —                                           | 50,000        | —           | 2,400       |
| 16            | 16            | 16              | ?                 | ?                                 | 16                         | N/A                                         | N/A           | N/A         | 2,000       |
| 560           | 560           | 560             | 570               | ?                                 | 480                        | —                                           | 50,000        | —           | 2,400       |
| 6             | 6             | 3               | 3                 | 0                                 | 3                          | N/A                                         | N/A           | 1,000       | 2,500       |
| 68            | 68            | 69              | 70                | 1                                 | 68                         | —                                           | 10,000/12,000 | —           | 3,200       |
| 27            | 24            | 21              | 21                | 2                                 | 21                         | N/A                                         | N/A           | N/A         | N/A         |
| 54            | 55            | 55              | 57                | 2                                 | 55                         | 90,000                                      | 60,000        | 800         | 1,500       |
| 7             | 7             | 9               | 10                | 1                                 | 9                          | —                                           | 85,000        | —           | 2,000       |
| 310           | 316           | 320             | 322               | 3                                 | 320                        | 92,000                                      | 90,000        | 650         | 2,000       |
| N/A           | N/A           | 408             | 413               | ?                                 | 408                        | N/A                                         | N/A           | 800         | 1,000+      |
| N/A           | 5             | 5               | 5                 | 0                                 | 5                          | 40,000                                      | 75,000        | 800         | 2,400       |
| 168           | 168           | 170             | 175               | ?                                 | 111                        | —                                           | N/A           | —           | 2,690       |
| 95            | 105           | 96              | 100               | 6                                 | 86                         | —                                           | 48,000        | —           | 2,500       |

## C-Store Summary (Cont.)

| Company                           | H.Q. Location      | C-Store Name                                    | No. of States<br>Where<br>Stores Are<br>Located | Company<br>Operated | Franchise<br>Operated |
|-----------------------------------|--------------------|-------------------------------------------------|-------------------------------------------------|---------------------|-----------------------|
| Martin Oil Co.                    | Bellwood, PA       | Minit Mart                                      | 1                                               | 18                  | 0                     |
| Martin Oil Marketing, Ltd.        | Alsip, IL          | Martin Mini Food Mart                           | 2                                               | 43                  | 0                     |
| Maverick Markets, Inc.            | Corpus Christi, TX | Maverick Market                                 | 1                                               | 110                 | 0                     |
| Maverik Mini Marts                | Cushing, OK        | Maverik Mini Marts                              | 1                                               | 23                  | 0                     |
| Maverik Country Stores, Inc.      | Afton, WY          | Maverik Country Stores, Inc.                    | 8                                               | 112                 | 0                     |
| May-Slade Oil Co.                 | Klamath Falls, OR  | Food Mart                                       | 1                                               | 4                   | 3                     |
| McDowell Oil Service, Inc.        | Milton, PA         | Time Markets, Inc.                              | 1                                               | 28                  | 0                     |
| McGuire Oil Co.                   | Mobile, AL         | McGuire Food Marts, Inc./<br>Com Pac Food Store | 1                                               | 18                  | 0                     |
| McLeiser Oil Service, Inc.        | Kalamazoo, MI      | Food Port Marketing                             | 1                                               | 3                   | 0                     |
| Mercer's Kwik Stop Food Stores    | Boonville, NY      | Bonfare                                         | 2                                               | 49                  | 11                    |
| Merritt Truax, Inc.               | Salem, OR          | Texaco                                          | 1                                               | 5                   | 0                     |
| Metzger Dairies, Inc.             | Dallas, TX         | Mr. M Food Store                                | 1                                               | 47                  | 0                     |
| Mickey's Enterprises, Inc.        | Killeen, TX        | Mickey's Convenience Store                      | 1                                               | 16                  | 0                     |
| Mid-Continent Systems, Inc.       | West Memphis, AR   | Convenience Market                              | 2                                               | 0                   | 28                    |
| Mid-Missouri Oil Co.              | Kaiser, MO         | Jiffy Stop                                      | 1                                               | 0                   | 6                     |
| Mid South Sales, Inc.             | Helena, AR         | Citgo Food Mart                                 | 1                                               | 14                  | 0                     |
| Midstate Oil Co.                  | Columbia, MO       | Breaktime                                       | 1                                               | 64                  | 0                     |
| Mid-States Petroleum              | Troy, MI           | Mid-Mart                                        | 3                                               | 39                  | 0                     |
| Mid-West Petroleum Inc.           | Derby, KS          | Stop 2 Shop                                     | 3                                               | 10                  | 35                    |
| Midwest Industrial Foods          | Lacrosse, WI       | Quik-Stop                                       | 2                                               | 0                   | 30                    |
| Midwest Petroleum Co.             | St. Louis, MO      | Bulch Oil Co./Express Lane                      | 2                                               | 56                  | 0                     |
| Miller & Holmes, Inc.             | St. Paul, MN       | MH                                              | 6                                               | N/A                 | N/A                   |
| Miller Enterprises Inc.           | Crescent City, FL  | Handy Way Food Store                            | 1                                               | 128                 | 0                     |
| Miller Oil Co.                    | Norfolk, VA        | Miller Mart                                     | 2                                               | N/A                 | N/A                   |
| Mini Mart Inc.                    | Casper, WY         | Mini Mart, Inc.                                 | 6                                               | 106                 | 0                     |
| Mini Marts                        | Bellwood, PA       | Mini Marts                                      | 1                                               | 30                  | 0                     |
| Minit Mart Foods, Inc.            | Bowling Green, KY  | Minit Mart                                      | 2                                               | 98                  | 0                     |
| Minit Mart, L.P.                  | Vancouver, WA      | Quick Shop Minit Mart Food Store                | 2                                               | 2                   | 48                    |
| Minit Stop, Inc.                  | Bay Minette, AL    | Minit Stop, Inc.                                | 1                                               | 10                  | 0                     |
| Mobil Oil Corp.                   | Fairfax, VA        | Mobil Mart                                      | 19                                              | 551                 | 616                   |
| Modern Oil Co., Inc.              | Shawnee, OK        | Kwik Stop Food Mart                             | 1                                               | 26                  | 0                     |
| Mooney Oil Corp.                  | Lansing, MI        | Superstop                                       | 1                                               | 19                  | 0                     |
| Moore Petroleum                   | Banta, CA          | Exxon Food Mart                                 | 1                                               | 0                   | 3                     |
| Mountain Empire Oil Co.           | Johnson City, TN   | Roadrunner Market                               | 3                                               | 32                  | 0                     |
| Moyle Petroleum Co.               | Rapid City, SD     | Common Cents Food Store                         | 1                                               | 30                  | 0                     |
| Mr. Zip Convenience Stores, Inc.  | Cleveland, TN      | Mr. Zip/Classic Group                           | 3                                               | 50                  | 0                     |
| Munro Petroleum & Terminal Corp.  | Biloxi, MS         | MP Stores                                       | 1                                               | 11                  | 0                     |
| Murphy Oil USA, Inc.              | El Dorado, AR      | SPUR                                            | 12                                              | 0                   | 156                   |
| Musket Corp.                      | Oklahoma City, OK  | Love's Country Store/Love's Travel Stop         | 6                                               | 127                 | 0                     |
| National Convenience Stores, Inc. | Houston, TX        | Stop N Go                                       | 3                                               | 982                 | 0                     |
| National Oil & Gas, Inc.          | Bluffton, IN       | Deli Mart                                       | 2                                               | 40                  | 0                     |
| Neal, Inc.                        | San Antonio, TX    | One Stop Food Store                             | 1                                               | 24                  | 0                     |
| Nella Oil Co.                     | Auburn, CA         | 1-Stop Convenience Food Store                   | 2                                               | 24                  | 0                     |
| Nelson's Oil & Gas, Inc.          | Edgemont, SD       | Nelson's Kountry Korner                         | 3                                               | 3                   | 2                     |
| Nice N Easy Grocery Shoppes, Inc. | Canastota, NY      | Nice N Easy Shoppe                              | 1                                               | 18                  | 67                    |
| Northville Industries Corp.       | Melville, NY       | Snaxville                                       | 1                                               | 6                   | 0                     |
| Nugget Oil, Inc.                  | Crestview, FL      | Nugget Oil Inc.                                 | 1                                               | 46                  | 0                     |
| Omega Oil Co.                     | Dayton, OH         | Omega Mart                                      | 2                                               | 58                  | 0                     |
| Open Pantry Food Marts            | Racine, WI         | Your Open Pantry                                | 2                                               | 22                  | 37                    |
| Orloski's Service Stations, Inc.  | Wilkes-Barre, PA   | Orloski's Quik Mart                             | 1                                               | 0                   | 0                     |
| Otto Energy, Inc.                 | Shreveport, LA     | Otto's Food Store                               | 1                                               | 7                   | 0                     |
| Pacific Northern Oil Co.          | Seattle, WA        | Panoco                                          | 1                                               | 2                   | 0                     |
| Pacific Petroleum Corp.           | Eugene, OR         | Tiger Mart                                      | 1                                               | 1                   | —                     |
| Pack & Sack Food Centers, Inc.    | Cairo, GA          | Pack & Sack Food                                | 2                                               | 0                   | 0                     |
| The Pantry Inc.                   | Sanford, NC        | The Pantry                                      | 4                                               | N/A                 | N/A                   |
| The Pantry Store Inc.             | Clarksburg, WV     | The Pantry Store Inc.                           | 2                                               | 28                  | 0                     |
| Parker Oil Co., Inc.              | South Hill, VA     | Petro/Red Barn                                  | 2                                               | 2                   | 28                    |
| Parman Oil Co.                    | Nashville, TN      | Par Mart                                        | 1                                               | 19                  | 0                     |
| Patterson Oil Co., Inc.           | Torrington, CT     | Patco Handy Stop                                | 1                                               | 9                   | 0                     |
| Pay Less Oil Co.                  | Tampa, FL          | Pay Less/Ready                                  | 1                                               | 21                  | 0                     |
| Pay N Save Inc.                   | Littlefield, TX    | Jolly Roger                                     | 2                                               | 14                  | 0                     |
| PDQ Food Stores, Inc.             | Middleton, WI      | PDQ Food Store, Inc.                            | 4                                               | 87                  | 0                     |
| Petroleum Marketers, Inc.         | Roanoke, VA        | Stop In Food Store                              | 2                                               | 50                  | 0                     |
| Petroleum Marketing Co.           | Tulsa, OK          | 7-Eleven                                        | 6                                               | 0                   | 20                    |
| Petroleum Sales & Service         | Buffalo, NY        | Petro USA                                       | 1                                               | 4                   | 0                     |
| Petroleum World, Inc.             | Spartansburg, SC   | Express Store                                   | 2                                               | 34                  | 0                     |
| Phillips 66 Co.                   | Bartlesville, OK   | Phillips 66                                     | N/A                                             | N/A                 | N/A                   |
| Piasa Motor Fuels, Inc.           | Alton, IL          | Piasa Pantry                                    | 2                                               | 4                   | 4                     |
| Pick Kwik Food Stores, Inc.       | Tampa, FL          | Pick Kwik                                       | 1                                               | 92                  | 0                     |
| Pilot Corp.                       | Knoxville, TN      | Pilot Foodmart/Pilot Travel Center              | 27                                              | 88                  | 0                     |
| Pipeline Oil Sales                | Jackson, MI        | Buddy's Mini-Marts, Inc.                        | 1                                               | 25                  | 1                     |
| Plaid Pantries, Inc.              | Beaverton, OR      | Plaid Pantries Inc.                             | 2                                               | 105                 | 0                     |
| Poole Oil Co.                     | Ontario, OR        | Poole's Country Store                           | 2                                               | 2                   | 0                     |
| Presta Oil Inc.                   | Garden City, KS    | Dart In/Presto                                  | 1                                               | 17                  | 2                     |
| Presto Food Stores, Inc.          | Plant City, FL     | Presto Food Stores                              | 1                                               | 63                  | 0                     |
| Private Brand Services, Inc.      | Cadillac, MI       | P.B.S. Party Store                              | 1                                               | 1                   | 0                     |
| Purity Oil Co.                    | Tulsa, OK          | Fastop Stores                                   | 1                                               | 13                  | 0                     |
| Q-Mart Food Stores of America     | Jackson, TN        | Q-Mart                                          | 1                                               | 7                   | 12                    |
| Q-Midwest                         | Mound, MN          | Total Mart                                      | 1                                               | 6                   | 0                     |



| 1989<br>Total | 1990<br>Total | 1991<br>Current | 1991<br>Projected | Additions<br>Projected<br>in 1992 | Number<br>With<br>Gasoline | Avg. Gasoline Volume<br>Per Store Per Month |                | Size Sq. Ft |             |
|---------------|---------------|-----------------|-------------------|-----------------------------------|----------------------------|---------------------------------------------|----------------|-------------|-------------|
|               |               |                 |                   |                                   |                            | Mini                                        | Full           | Mini        | Full        |
| N/A           | N/A           | 18              | 18                | 7                                 | 18                         | —                                           | N/A            | —           | N/A         |
| 41            | 43            | 43              | 43                | 6-8                               | 43                         | 130,000                                     | 160,000        | 400         | 2,400/3,200 |
| 111           | 110           | 110             | 120               | ?                                 | 95                         | —                                           | 75,000         | —           | 2,400       |
| 26            | 24            | 23              | 23                | ?                                 | 22                         | —                                           | 45,000         | —           | 1,400       |
| 98            | 109           | 112             | 115               | ?                                 | 111                        | —                                           | 65,000         | —           | 2,000       |
| 6             | 6             | 7               | —                 | 1                                 | 7                          | 40,000                                      | 105,000        | 900         | 1,100/1,500 |
| 30            | 28            | 28              | 28                | 0                                 | 28                         | —                                           | 70,000         | —           | 2,100       |
| 22            | 22            | 18              | 18                | ?                                 | 18                         | —                                           | 50,000         | —           | 1,500       |
| 2             | 3             | 3               | 3                 | ?                                 | 3                          | —                                           | 75,000/80,000  | —           | 3,000/4,000 |
| 56            | 58            | 60              | 60                | 0                                 | 48                         | —                                           | 40,000         | —           | 3,000       |
| 6             | 5             | 5               | 6                 | 0                                 | 5                          | —                                           | 125,000        | —           | N/A         |
| 48            | 48            | 47              | 48                | ?                                 | 38                         | —                                           | N/A            | —           | 2,300       |
| 21            | 21            | 16              | 17                | ?                                 | 16                         | —                                           | N/A            | —           | 2,300       |
| 32            | N/A           | 26              | 26                | 0                                 | 22                         | —                                           | 20,000         | —           | 2,000       |
| 8             | 6             | 6               | 6                 | ?                                 | 6                          | —                                           | 60,000         | —           | 1,000+      |
| 10            | 14            | 14              | 15                | 2                                 | 14                         | —                                           | N/A            | —           | 2,200       |
| 63            | 63            | 64              | 66                | ?                                 | 64                         | 50,000                                      | 50,000         | 800         | 1,400       |
| 39            | 39            | 39              | 39                | 3-5                               | 37                         | 120,000                                     | 120,000        | 800         | 2,600       |
| 40            | 45            | 45              | 50                | 5                                 | 45                         | —                                           | 50,000         | —           | 2,400       |
| 0             | 30            | 30              | 33                | 2-3                               | 30                         | —                                           | 50,000         | —           | 1,800       |
| 53            | 57            | 56              | 57                | ?                                 | 56                         | 60,000                                      | 60,000         | 1,000       | 1,500       |
| N/A           | N/A           | 24              | N/A               | N/A                               | 24                         | N/A                                         | N/A            | N/A         | N/A         |
| 129           | 125           | 128             | 130               | 5                                 | 112                        | —                                           | 50,000         | —           | 2,400       |
| 21            | 35            | 41              | ?                 | ?                                 | 41                         | N/A                                         | N/A            | N/A         | N/A         |
| 117           | 117           | 106             | 108               | 2                                 | 118                        | —                                           | 45,000         | —           | 2,400       |
| N/A           | 30            | 30              | 30                | 0                                 | 30                         | 40,000                                      | 50,000         | 1,000       | 2,000       |
| 98            | 97            | 98              | 99                | 2-3                               | 96                         | —                                           | 44,000         | —           | 3,000       |
| 52            | 51            | 50              | 50                | 0                                 | 17                         | —                                           | 50,000         | —           | 2,800       |
| 10            | 10            | 10              | ?                 | ?                                 | 10                         | —                                           | 100,000        | —           | 2,400       |
| 800           | N/A           | 1,167           | 1,207             | ?                                 | 1,167                      | N/A                                         | N/A            | 960         | 1,000       |
| N/A           | N/A           | 26              | 26                | ?                                 | 26                         | —                                           | N/A            | —           | 1,000+      |
| 18            | 19            | 19              | 2                 | 2                                 | 19                         | —                                           | 90,000         | —           | 2,300       |
| 3             | 3             | 3               | 5                 | 1                                 | 3                          | 80,000                                      | 160,000        | 200         | 2,400       |
| 35            | 35            | 32              | 41                | ?                                 | 32                         | 60,000                                      | 60,000         | 200         | 2,000       |
| 30            | 30            | 30              | ?                 | ?                                 | 30                         | —                                           | N/A            | —           | 2,500       |
| 50            | 50            | 50              | 52                | ?                                 | 50                         | —                                           | N/A            | —           | 1,000+      |
| 9             | 10            | 11              | 2                 | 1                                 | 11                         | —                                           | 60,000         | —           | 1,200/1,400 |
| 119           | 156           | 156             | ?                 | ?                                 | 156                        | —                                           | N/A            | —           | 1,200       |
| 119           | 123           | 127             | 131               | ?                                 | 127                        | —                                           | 100,000        | —           | 3,500       |
| 1,099         | 1,091         | 989             | 989               | 0                                 | 809                        | N/A                                         | N/A            | 800         | 2,700       |
| 28            | 28            | 40              | 46                | 6                                 | 40                         | 50,000                                      | 50,000         | 1,000       | 2,000       |
| 25            | 25            | 24              | 25                | 2                                 | 24                         | —                                           | 42,500         | —           | 1,750       |
| 27            | 24            | 24              | 25                | 3                                 | 24                         | 185,000                                     | 185,000        | 800         | 1,800       |
| 7             | 7             | 7               | 8                 | ?                                 | 7                          | —                                           | 50,000         | —           | 2,800       |
| N/A           | N/A           | 85              | 85                | ?                                 | 85                         | N/A                                         | N/A            | N/A         | N/A         |
| 0             | 0             | 6               | 6                 | 2-3                               | 6                          | —                                           | 60,000         | —           | 1,800       |
| 44            | 44            | 46              | 47                | 0                                 | 46                         | —                                           | 40,000/125,000 | —           | 1,600/2,400 |
| 57            | 57            | 58              | 59                | 2                                 | 58                         | N/A                                         | N/A            | 600         | 1,200       |
| 61            | 60            | 59              | 59                | 2                                 | 31                         | —                                           | 70,000         | —           | 2,400       |
| 32            | 34            | 34              | 35                | ?                                 | 33                         | 80,000                                      | 80,000         | 700         | 1,400       |
| 4             | 6             | 6               | 7                 | ?                                 | 7                          | —                                           | N/A            | —           | 1,000       |
| 2             | 2             | 2               | 2                 | 1-5                               | 2                          | —                                           | 125,000        | —           | 2,800       |
| —             | —             | 4               | 1                 | 2                                 | 1                          | —                                           | 290,000        | —           | 1,600       |
| 45            | 48            | 46              | 46                | 2                                 | 46                         | —                                           | 15,000         | —           | 2,400       |
| N/A           | N/A           | 446             | 450               | 0                                 | 427                        | —                                           | N/A            | —           | 2,400       |
| N/A           | 27            | 28              | 30                | 2                                 | 27                         | —                                           | 50,000         | —           | 1,500       |
| 30            | 28            | 30              | ?                 | ?                                 | 30                         | —                                           | 50,000         | —           | 1,800       |
| 18            | 20            | 19              | ?                 | ?                                 | 19                         | —                                           | 150,000        | —           | 2,500       |
| 7             | 9             | 9               | 10                | 1                                 | 9                          | 57,000                                      | 70,000         | 800         | 1,600       |
| 21            | 22            | 21              | ?                 | ?                                 | 21                         | —                                           | N/A            | —           | 1,000+      |
| N/A           | N/A           | 14              | N/A               | N/A                               | 14                         | N/A                                         | N/A            | N/A         | N/A         |
| 105           | 99            | 87              | 88-90             | ?                                 | 67                         | N/A                                         | N/A            | N/A         | N/A         |
| 54            | 50            | 50              | 55                | 10                                | 50                         | 78,000                                      | 110,000        | 1,000       | 1,800       |
| 111           | 96            | 97              | 96                | 0                                 | 97                         | N/A                                         | N/A            | N/A         | N/A         |
| 3             | 4             | 4               | 6-7               | ?                                 | 4                          | 80,000                                      | —              | 600/700     | —           |
| N/A           | 27            | 34              | 34                | ?                                 | 34                         | N/A                                         | N/A            | N/A         | N/A         |
| 159           | 190           | 213             | ?                 | ?                                 | 213                        | N/A                                         | N/A            | N/A         | N/A         |
| 4             | 6             | 8               | 9                 | 1                                 | 8                          | —                                           | 60,000         | —           | 2,200       |
| 94            | 92            | 89              | 87                | 4                                 | 67                         | —                                           | 48,000         | —           | 2,200       |
| 81            | 85            | 88              | 4-5               | ?                                 | 88                         | —                                           | N/A            | —           | 1,500/6,000 |
| 25            | 28            | 30              | 33                | ?                                 | 30                         | 51,000                                      | 63,000         | 750         | 1,400       |
| 124           | 110           | 105             | 105               | ?                                 | 14                         | —                                           | 75,000         | —           | 2,400       |
| 4             | 5             | 5               | —                 | —                                 | 5                          | —                                           | 50,000         | —           | 1,800/2,500 |
| 15            | 21            | 19              | 21                | 2                                 | 19                         | 59,000                                      | 47,000         | 225         | 2,400       |
| 58            | 62            | 63              | ?                 | ?                                 | 62                         | 30,000                                      | 30,000         | N/A         | 2,400       |
| 1             | 1             | 1               | 1                 | 0                                 | 1                          | —                                           | 140,000        | —           | 3,000       |
| 10            | 13            | 13              | 13                | ?                                 | N/A                        | 80,000                                      | N/A            | 800         | N/A         |
| N/A           | 19            | 19              | 20                | N/A                               | 19                         | —                                           | 40,000         | —           | 2,400       |
| 3             | 6             | 6               | 8                 | 2                                 | 6                          | —                                           | 80,000         | —           | 2,400       |

## COVER REPORT

## C-Store Summary (Cont.)

| Company                                | H.Q. Location           | C-Store Name                                                           | No. of States<br>Where<br>Stores Are<br>Located | Company<br>Operated | Franchise<br>Operated |
|----------------------------------------|-------------------------|------------------------------------------------------------------------|-------------------------------------------------|---------------------|-----------------------|
| Quality Oil Co. Inc., Ltd. Partnership | Winston-Salem, NC       | Quality Mart                                                           | 2                                               | 28                  | 0                     |
| Quarles Petroleum, Inc.                | Fredericksburg, VA      | Q-Stop Food Store                                                      | 1                                               | 15                  | 0                     |
| Quality Petroleum Corp.                | Lakeland, FL            | Hop-N-Save                                                             | 2                                               | 30                  | 20                    |
| Quick Chek Food Stores Inc.            | White House Station, NJ | Quick Chek                                                             | 1                                               | 95                  | 0                     |
| Quick 'N Easy Stores, Inc.             | Austell, GA             | Quick 'N Easy Store                                                    | 1                                               | 18                  | 0                     |
| Quick-Sav, Inc.                        | Flushing, MI            | Quick-Sav, Inc.                                                        | 1                                               | 29                  | 0                     |
| Quick Stop Food Mart, Inc.             | Fayetteville, NC        | Quick Stop Food Mart                                                   | 2                                               | 80                  | 0                     |
| Quik Mart Stores                       | Billings, MT            | Quik Mart                                                              | 1                                               | 4                   | 0                     |
| Quik Mart Stores, Inc.                 | Tucson, AZ              | Quik Mart Store                                                        | 1                                               | 24                  | 0                     |
| Quik Thrift Food Stores, Inc.          | Marietta, GA            | Quik Thrift                                                            | 1                                               | 14                  | 0                     |
| QuikTrip Corporation                   | Tulsa, OK               | QuikTrip                                                               | 6                                               | 284                 | 0                     |
| Qwik Korner Deli-Grocery, Inc.         | San Marcos, CA          | Qwik Korner Deli Grocery                                               | 1                                               | 7                   | 0                     |
| Qwik Stop                              | Coeur D'Alene, ID       | Qwik Stop                                                              | 1                                               | 3                   | 0                     |
| Racetrac Petroleum, Inc.               | Atlanta, GA             | Racetrac Raceway                                                       | 12                                              | 175                 | 139                   |
| Rainbo Oil Co.                         | Salt Lake City, UT      | Rainbo Mart                                                            | 1                                               | 38                  | 0                     |
| Ram Oil Corp.                          | San Antonio, TX         | Ram Store                                                              | 1                                               | 13                  | 0                     |
| Red Hed Oil Co., Inc.                  | Richmond, KY            | Redi Mart                                                              | 1                                               | 8                   | 0                     |
| Red Rock Distributing                  | Oklahoma City, OK       | Save-A-Stop/Fuel-at-the-Flag                                           | 1                                               | 19                  | 0                     |
| Republic Oil Corp.                     | Woodland Hills, CA      | Dixie Mart                                                             | N/A                                             | N/A                 | N/A                   |
| Retail Marketing Co.                   | Tulsa, OK               | 7-Eleven                                                               | 6                                               | 77                  | 20                    |
| Rinehart Oil Inc.                      | Ukiah, CA               | R-Mart/RINO                                                            | 1                                               | 6                   | 0                     |
| River Oil Co.                          | Memphis, TN             | Phillips 66 C-Store                                                    | 1                                               | 3                   | 0                     |
| F.L. Roberts                           | Springfield, MA         | Roberts Food Mart                                                      | 2                                               | 24                  | 0                     |
| Robinson Oil Co., Inc.                 | San Jose, CA            | Mrs. Robbie's Foodstore/<br>Mrs. Robbie's Snackspot                    | 1                                               | 8                   | 0                     |
| Rocky Top Markets, Inc.                | Harriman, TN            | Rocky Top Market                                                       | 1                                               | N/A                 | N/A                   |
| Royster Oil Co., Inc.                  | Shelby, NC              | RoCo Food Store                                                        | 1                                               | 1                   | 0                     |
| Russ Day-N-Nite Markets, Inc.          | Albany, OR              | Russ' Day-N-Nite                                                       | 1                                               | 14                  | 0                     |
| Russel Petroleum Corp.                 | Montgomery, AL          | Kwik Shop Food Store                                                   | 1                                               | 17                  | 0                     |
| Sac N Pac Stores                       | San Marcos, TX          | Sac N Pac                                                              | 1                                               | 20                  | N/A                   |
| Sahara Oil Co., Inc.                   | Phoenix, AZ             | Rebel Quik Mart                                                        | 1                                               | 8                   | 0                     |
| Santee Oil Co., Inc.                   | Kingstree, SC           | Carolina Shell/Georgetown Shell<br>Pawley Island Shell/Hemingway Shell | 1                                               | 4                   | 0                     |
| Satco                                  | Newport, ME             | Satco                                                                  | 1                                               | 18                  | 3                     |
| Sav A Step Food Marts, Inc.            | Louisville, KY          | Sav-A-Step Food Mart                                                   | 2                                               | 22                  | 4                     |
| Save-A-Stop, Inc.                      | Oklahoma City, OK       | Save-A-Stop                                                            | 1                                               | 19                  | 0                     |
| Save-A-Trip, Inc.                      | Cherokee, OK            | Save-A-Trip, Inc.                                                      | 2                                               | 19                  | 0                     |
| Save-X, U.S.A., Inc.                   | Roanoke, VA             | Save-X Mini Mart                                                       | 1                                               | 10                  | 0                     |
| Savings Station Dodges Store           | Tupelo, MS              | Dodges Stores                                                          | 10                                              | 10                  | —                     |
| SBR, Inc.                              | Parkersburg, WV         | 7-Eleven                                                               | 2                                               | 63                  | 0                     |
| Scaff's Inc. dba S & S Foods           | Lakeland, FL            | S&S Food Stores                                                        | 1                                               | 35                  | 0                     |
| SCASCO                                 | Winsted, CT             | Nutmeg Pantry                                                          | 1                                               | 0                   | 10                    |
| Schaeffer Oil Inc.                     | Winner, SD              | "Lil Feller"                                                           | 2                                               | 6                   | 0                     |
| Schieri Sales Corp.                    | Stevens Point, WI       | The Store                                                              | 2                                               | 23                  | 0                     |
| Schmuckal Oil Co.                      | Traverse City, MI       | Shell Mini-Mart                                                        | 1                                               | 18                  | 0                     |
| Carl M. Schultz Inc.                   | LaPeer, MI              |                                                                        | 1                                               | N/A                 | N/A                   |
| Sears Oil Co., Inc.                    | Rome, NY                | Seaco Express Shop                                                     | 1                                               | 9                   | 1                     |
| Sessoma Properties, Inc.               | St. Pauls, NC           | Kwik Shop/Petro Mart                                                   | 1                                               | 12                  | 0                     |
| 7 2 11 Food Stores                     | Farmington, NM          | 7 2 11 Food Store                                                      | 3                                               | N/A                 | N/A                   |
| Shay Oil Co., Inc.                     | Yuma, AZ                | Shay's Mart                                                            | 1                                               | 11                  | 0                     |
| Sheetz, Inc.                           | Altoona, PA             | Sheetz Inc.                                                            | 4                                               | 160                 | 0                     |
| Sheffield Oil Co.                      | Dothan, AL              | Sheffield Oil Co.                                                      | 3                                               | 22                  | 0                     |
| Shell Oil Co.                          | Houston, TX             | Shell Food Mart                                                        | 22                                              | N/A                 | N/A                   |
| Shibley Oil Co.                        | York, PA                | N/A                                                                    | 1                                               | N/A                 | N/A                   |
| Shirtcliff Oil Co.                     | Myrtle Creek, OR        | Food Mart/Deli Mart                                                    | 1                                               | 2                   | 0                     |
| Shop A Snak Food Marts, Inc.           | Birmingham, AL          | Shop-A-Snack Food Mart                                                 | 1                                               | 24                  | 0                     |
| Shop Rite, Inc.                        | Crowley, LA             | Shop Rite                                                              | 1                                               | 42                  | 0                     |
| Short Stop Food Marts                  | Fayetteville, NC        | Short Stop/Easy Stop 66/Food Mart                                      | 1                                               | 66                  | 0                     |
| SICO                                   | Mount Joy, PA           | SICO Serve                                                             | 3                                               | 8                   | 0                     |
| Silcorp Ltd.                           | Mississauga, Ont. Can   | Mac's/Hop In/Mike's Mart                                               | 1                                               | N/A                 | N/A                   |
| Sinclair Oil Corp.                     | Salt Lake City, UT      | Sinclair Service Stations                                              | 14                                              | 220                 | 80                    |
| Sing Oil Co.                           | Thomasville, GA         | Sing Food Stores                                                       | 5                                               | 56                  | 0                     |
| Site Oil Co.                           | St. Louis, MO           | Site Food Mart                                                         | 8                                               | 50                  | 0                     |
| 6-Twelve Convenience Mart Inc.         | Gaithersburg, MD        | 6-Twelve Convenience Mart                                              | 2                                               | 7                   | 20                    |
| Skinny's, Inc.                         | Abilene, TX             | Skinny's                                                               | 1                                               | 49                  | 0                     |
| R.L. Smeltz Oil Co., Inc.              | Greensburg, PA          | R.L. Smeltz Oil Co.                                                    | 1                                               | 10                  | 0                     |
| Southern Counties Oil Co.              | Orange, CA              | Southern Counties Oil Co.                                              | 1                                               | 5                   | 0                     |
| Southern Food Park, Inc.               | Sparta, IL              | Han-Dee Mart                                                           | 1                                               | 16                  | 0                     |
| Southern Oil Co., Inc.                 | Suffolk, VA             | Southern Food Stores                                                   | 1                                               | 6                   | 0                     |
| The Southland Corp.                    | Dallas, TX              | 7-Eleven/High's Quick Mart                                             | 30                                              | 1,704               | 4,239                 |
| Spectrum Stores                        | West Point, GA          | Spectrum Store                                                         | 2                                               | 0                   | 0                     |
| The Spencer Co., Inc.                  | Huntsville, AL          | Minit Man                                                              | 1                                               | 14                  | 24                    |
| Spies Corp.                            | Watertown, SD           | Cowboy Convenience Store                                               | 1                                               | 1                   | 0                     |
| Stallings Oil Co.                      | Rocky Mount, NC         | Zipmart                                                                | 2                                               | 41                  | 0                     |
| Star Development Holding               | Melburne, FL            | Town Star Foods                                                        | 1                                               | 30                  | 0                     |
| Star Enterprise                        | Houston, TX             | Texaco Food Mart                                                       | 26                                              | 658                 | 4,739                 |
| Star Oil Co.                           | Port Huron, MI          | Plums                                                                  | 1                                               | 4                   | 0                     |
| Sterling Milk Co.                      | Wauseon, OH             | Sterling Food Store                                                    | 2                                               | 28                  | 0                     |
| Stewart Petroleum Co.                  | Washington, DC          | Agip/Happy Store                                                       | 6                                               | 60                  | 3                     |
| Stewart Oil Co./Tri-Star Marketing     | Urbana, IL              | Super Gas/Super Pantry Store                                           | 2                                               | 39                  | 0                     |

| 1989<br>Total | 1990<br>Total | 1991<br>Current | 1991<br>Projected | Additions<br>Projected<br>In 1992 | Number<br>With<br>Gasoline | Avg. Gasoline Volume |           | Size Sq. Ft |             |
|---------------|---------------|-----------------|-------------------|-----------------------------------|----------------------------|----------------------|-----------|-------------|-------------|
|               |               |                 |                   |                                   |                            | Per Store            | Per Month | Mini        | Full        |
| 27            | 26            | 28              | 29                | 1                                 | 28                         | 100,000              | 100,000   | 200         | 2,200       |
| 43            | 47            | 50              | 50                | ?                                 | 50                         | —                    | 68,000    | —           | 1,800       |
| 11            | 14            | 15              | 17                | 2                                 | 15                         | —                    | 50,000    | —           | 2,400       |
| 92            | 95            | 95              | 98                | ?                                 | 0                          | —                    | N/A       | —           | 3,100       |
| 22            | 18            | 18              | 18                | 0                                 | 18                         | —                    | 50,000    | —           | 3,000       |
| 27            | 29            | 29              | 30                | ?                                 | 29                         | —                    | 63,000    | —           | 1,800       |
| 83            | 80            | 80              | 82                | 3                                 | 80                         | —                    | 50,000    | —           | 2,400       |
| 6             | 6             | 4               | 4                 | ?                                 | 4                          | N/A                  | N/A       | N/A         | N/A         |
| 25            | 25            | 24              | 25                | ?                                 | 22                         | —                    | N/A       | —           | 2,400       |
| 12            | 14            | 14              | 14                | 0                                 | 8                          | —                    | 95,000    | —           | 1,500       |
| 255           | 268           | 264             | 314               | 30                                | 277                        | —                    | N/A       | —           | 3,200       |
| 24            | 23            | 7               | 7                 | 0                                 | 2                          | —                    | 61,000    | —           | 1,200       |
| 0             | 0             | 3               | 8                 | 5                                 | 3                          | —                    | N/A       | —           | 3,000       |
| 268           | 314           | 259             | 340               | 20-35                             | 314                        | N/A                  | N/A       | 800         | 3,500       |
| 37            | 39            | 37              | ?                 | ?                                 | 38                         | —                    | N/A       | —           | 1,800       |
| 9             | 11            | 13              | 15                | ?                                 | 13                         | —                    | N/A       | —           | N/A         |
| 6             | 6             | 8               | 8                 | 1                                 | 8                          | 55,000               | 70,000    | 600         | 2,50        |
| 22            | 22            | 19              | 19                | 0                                 | 19                         | 50,000               | 50,000    | 600         | 2,500       |
| 4             | 4             | 4               | N/A               | N/A                               | N/A                        | N/A                  | N/A       | N/A         | N/A         |
| 111           | 100           | 97              | 97                | 0                                 | 96                         | —                    | 51,000    | —           | 2,400       |
| 6             | 6             | 5               | 6                 | —                                 | —                          | 34,000               | 100,000+  | 300         | 1,200       |
| 3             | 3             | 3               | 3                 | 0                                 | 3                          | —                    | 90,000    | —           | 2,000       |
| N/A           | 24            | 24              | 24                | 0                                 | 24                         | 70,000               | 100,000   | 800         | 1,400       |
| 7             | 8             | 8               | 9                 | ?                                 | 8                          | N/A                  | N/A       | 600         | 1,350       |
| N/A           | 24            | 25              | ?                 | ?                                 | 25                         | N/A                  | N/A       | N/A         | N/A         |
| 1             | 1             | 1               | 1                 | 1                                 | 1                          | —                    | 130,000   | —           | 2,500       |
| 22            | 20            | 14              | 11                | 0                                 | 1                          | —                    | N/A       | —           | 2,000       |
| 17            | 19            | 17              | 19                | 2-3                               | 17                         | N/A                  | N/A       | 900         | 2,400       |
| N/A           | N/A           | 20              | N/A               | N/A                               | 20                         | N/A                  | N/A       | N/A         | N/A         |
| 6             | 7             | 8               | 11                | 2                                 | 9                          | —                    | 100,000   | —           | 3,200       |
| 4             | 4             | 4               | 4                 | ?                                 | 4                          | —                    | 222,000   | —           | 2,000       |
| N/A           | 27            | 21              | 21                | 0                                 | 21                         | —                    | 55,000    | —           | 1,200       |
| N/A           | 24            | 26              | 27                | 5                                 | 24                         | —                    | N/A       | —           | 3,000       |
| 23            | 21            | 19              | 19                | 0                                 | 19                         | N/A                  | N/A       | 1,000       | 2,000       |
| 18            | 19            | 19              | 19                | 1                                 | 19                         | —                    | 50,000    | —           | 1,800       |
| 9             | 10            | 10              | 11                | 1                                 | 10                         | N/A                  | N/A       | 1,000       | 2,200       |
| N/A           | N/A           | 60              | N/A               | N/A                               | 60                         | —                    | N/A       | —           | N/A         |
| 63            | 63            | 63              | 65                | ?                                 | 51                         | —                    | N/A       | —           | 2,500       |
| 37            | 37            | 35              | 36                | 1                                 | 35                         | —                    | 80,000    | —           | 2,700       |
| 8             | 10            | 10              | 11                | 1                                 | 10                         | —                    | 75,000    | —           | 1,800       |
| 6             | 6             | 6               | ?                 | ?                                 | 6                          | —                    | N/A       | —           | 2,500       |
| 21            | 22            | 23              | 23                | 0                                 | 23                         | —                    | 60,000    | —           | 2,300       |
| 16            | 16            | 18              | 19                | 2                                 | 18                         | —                    | 95,000    | —           | 2,400       |
| N/A           | N/A           | 24              | N/A               | N/A                               | 24                         | —                    | N/A       | —           | N/A         |
| 3             | 10            | 10              | N/A               | N/A                               | 10                         | N/A                  | N/A       | 250         | 2,500       |
| 17            | 14            | 12              | 13                | 0                                 | 11                         | —                    | N/A       | —           | N/A         |
| N/A           | N/A           | 30              | N/A               | N/A                               | N/A                        | N/A                  | N/A       | N/A         | N/A         |
| 11            | 11            | 11              | 12                | 1                                 | 11                         | 100,000              | 125,000   | 800         | 2,500       |
| 146           | 152           | 160             | 170               | 12                                | 158                        | —                    | 80,000    | —           | 2,700       |
| 20            | 22            | 24              | 26                | ?                                 | 24                         | 40,000               | —         | 800         | —           |
| 1,164         | 1,300         | 1,300           | ?                 | ?                                 | 1,300                      | N/A                  | N/A       | 800         | 1,000/2,800 |
| N/A           | N/A           | 20-25           | N/A               | N/A                               | 20-25                      | N/A                  | N/A       | N/A         | N/A         |
| 2             | 2             | 2               | 3                 | —                                 | 2                          | —                    | 100,000   | —           | 2,400       |
| N/A           | 21            | 22              | 22                | ?                                 | 22                         | —                    | 50,000    | —           | 2,400       |
| 38            | 41            | 42              | 44                | ?                                 | 42                         | —                    | N/A       | —           | 2,400       |
| N/A           | 66            | 62              | 66                | ?                                 | 58                         | —                    | N/A       | —           | N/A         |
| 7             | 8             | 8               | 8                 | 2                                 | 8                          | 104,000              | 199,000   | 650         | 1,200       |
| 1,130         | 999           | 999             | ?                 | ?                                 | 197                        | —                    | N/A       | —           | 2,400       |
| N/A           | N/A           | 300             | N/A               | N/A                               | N/A                        | N/A                  | N/A       | N/A         | N/A         |
| 54            | 54            | 56              | 56                | ?                                 | 56                         | N/A                  | N/A       | —           | 3,000       |
| N/A           | 50            | 50              | ?                 | ?                                 | 50                         | N/A                  | N/A       | —           | 2,500       |
| N/A           | 23            | 27              | 32                | ?                                 | 8                          | —                    | 80,000    | —           | 3,000       |
| 50            | 52            | 49              | 47                | 2                                 | 49                         | —                    | 29,000    | —           | 2,400       |
| 4             | 4             | 10              | 12                | 2                                 | 10                         | 100,000              | 175,000   | 1,000       | 2,400       |
| 3             | 4             | 5               | 7                 | 0                                 | 4                          | 150,000              | —         | 650         | —           |
| 16            | 16            | 16              | 16                | 1-2                               | 16                         | —                    | 50,000    | —           | 2,500       |
| 5             | 5             | 6               | 6                 | 1                                 | 6                          | —                    | 80,000    | —           | 1,800       |
| 7,097         | 6,190         | 5,943           | ?                 | 0                                 | 2,534                      | —                    | 46,000    | —           | 2,800       |
| 40            | 42            | 42              | 42                | 0                                 | 42                         | —                    | 70,000    | —           | 2,400       |
| N/A           | 30            | 33              | 38                | 0                                 | 38                         | —                    | 55,000    | —           | N/A         |
| 1             | 1             | 1               | 1                 | 0                                 | 1                          | —                    | 60,000    | —           | 5,000       |
| 45            | 43            | 41              | 44                | ?                                 | 42                         | N/A                  | 125,000   | 1,000       | 1,500       |
| N/A           | 31            | 30              | ?                 | ?                                 | ?                          | —                    | N/A       | —           | N/A         |
| N/A           | 5,397         | 5,397           | 5,350             | 244                               | 5,311                      | 85,000               | 102,000   | 700         | 1,500       |
| N/A           | N/A           | 4               | ?                 | 1                                 | 4                          | —                    | 200,000   | —           | 1,500       |
| N/A           | 28            | 28              | 28                | ?                                 | 11                         | —                    | N/A       | —           | 2,400       |
| 21            | 59            | 63              | 65                | 16                                | 63                         | 145,000              | 168,000   | 600         | 1,800       |
| N/A           | 20            | 39              | 24                | 3                                 | 39                         | N/A                  | N/A       | 700         | 1,800       |

## COVER REPORT

## C-Store Summary (Cont.)

| Company                          | H.Q. Location        | C-Store Name                                                       | No. of States<br>Where<br>Stores Are<br>Located | Company<br>Operated | Franchise<br>Operated |
|----------------------------------|----------------------|--------------------------------------------------------------------|-------------------------------------------------|---------------------|-----------------------|
| Stewarts Ice Cream Co.           | Saratoga Springs, NY | Stewarts Ice Cream                                                 | 2                                               | 181                 | 0                     |
| Stop In Food Stores, Inc.        | Roanoke, VA          | Stop-In Food Stores                                                | 2                                               | 51                  | 0                     |
| Stop-N-Go of Madison, Inc.       | Madison, WI          | Stop-N-Go                                                          | 2                                               | 47                  | 0                     |
| The Store 24, Inc.               | Waltham, MA          | The Store 24, Inc.                                                 | 5                                               | 109                 | 0                     |
| J.D. Streett & Co., Inc.         | Maryland Heights, MO | FINA/Citgo/Sunoco                                                  | 4                                               | 14                  | 0                     |
| Strassburger Enterprises         | Temple, TX           | Pay Less/Quix                                                      | 1                                               | 29                  | 0                     |
| Sugar Creek Stores, Inc.         | Rochester, NY        | Sugar Creek Store                                                  | 1                                               | 98                  | 5                     |
| Sunglo, Inc.                     | San Antonio, TX      | Sunglo, Inc.                                                       | 1                                               | 24                  | 0                     |
| Sun Refining and Marketing Co.   | Philadelphia, PA     | Stop-N-Go                                                          | 27                                              | N/A                 | N/A                   |
| Sunny Side Farms Stores          | Moosup, CT           | Sunny Side Farms Store                                             | 1                                               | 10                  | 0                     |
| Sunshine Jr. Stores, Inc.        | Panama City, FL      | Jr. Food Stores                                                    | 5                                               | 296                 | 0                     |
| Suwannee Swifty Stores, Inc.     | Quitman, GA          | Beacon/Ultramart/Suwannee Swifty                                   | 3                                               | 212                 | 0                     |
| Sweeney Co., Inc.                | Chicago, IL          | Sweeney Foods Works                                                | 1                                               | 6                   | 0                     |
| T & E Oil Co.                    | Hutchinson, KS       | Food Plaza and Mini Mart                                           | 1                                               | 9                   | 0                     |
| Target Capital Div.              | Seattle, WA          | Express Lane                                                       | 2                                               | 0                   | 20                    |
| Tattnal Foods, Inc.              | Glennville, GA       | Wollard's Blanch                                                   | 1                                               | 26                  | 0                     |
| Taylor Food Marts                | Amarillo, TX         | Taylor Food Mart                                                   | 5                                               | 112                 | 0                     |
| Taylor Oil Co.                   | Winston-Salem, NC    | Elna Food Store                                                    | 2                                               | 60                  | 0                     |
| Tedeschi's Food Stores           | Rockland, MA         | Tedeschi's Food Store                                              | 2                                               | 67                  | 0                     |
| Tesoro Petroleum Corp.           | Anchorage, AK        | North Stores 7-Eleven                                              | 1                                               | 39                  | 0                     |
| Texaco Refining & Marketing Inc. | Houston, TX          | Texaco/Star Mart/Food Mart                                         | 14                                              | 471                 | 0                     |
| TFM Co.                          | Dubuque, IA          | Okly Doky                                                          | 3                                               | 1                   | 18                    |
| Thomas Oil Co.                   | Bryant, AR           | Tommys-A-Tanks/Kountry Junction/<br>Military 66/2 Chief Truck Stop | 1                                               | 5                   | 0                     |
| Thornhill Oil Co., Inc.          | Ft. Wayne, IN        | Amoco Food Shop                                                    | 1                                               | 15                  | 1                     |
| Thornton Oil Corp.               | Louisville, KY       | Thornton's Gas and Food Mart                                       | 6                                               | 102                 | 4                     |
| Thrifty Oil Co.                  | Downey, CA           | Thrifty Food & Gas                                                 | 1                                               | 151                 | 0                     |
| Thriftway Marketing Corp.        | Farmington, NM       | Thriftway Marketing                                                | 4                                               | 71                  | 0                     |
| Time Oil Co.                     | Seattle, WA          | Jackpot Food Mart                                                  | 5                                               | 111                 | 58                    |
| Time Saver Stores, Inc.          | New Orleans, LA      | Time Saver Stores, Inc.                                            | 1                                               | 133                 | 0                     |
| TOC Retail Inc.                  | Casselberry, FL      | Majik Market                                                       | 11                                              | 389                 | 0                     |
| Tom Thumb Food Markets, Inc.     | Crestview, FL        | Tom Thumb                                                          | 2                                               | 104                 | 0                     |
| Tooley Oil Co.                   | Sacramento, CA       | Shell Food Mart/Tooley's Mart                                      | 1                                               | 6                   | 0                     |
| Total Petroleum, Inc.            | Denver, CO           | Total Mart/V Mart/Road Runner                                      | 18                                              | 614                 | 13                    |
| Total Road Runner, Inc.          | Texar Kana, TX       | Road Runner                                                        | 5                                               | 130                 | 0                     |
| Town & Country Food Marts        | Wichita, KS          | Town and Country Markets                                           | 4                                               | 66                  | 0                     |
| Town & Country Food Stores       | Melbourne, FL        | Town Star Food Store                                               | 1                                               | 30                  | 0                     |
| Town Pump                        | Butte, MT            | Town Pump Food Store                                               | 1                                               | 38                  | 23                    |
| Town Star Food Stores, Inc.      | Melbourne, FL        | Town Star Food Store                                               | 1                                               | 31                  | 0                     |
| Travelers Petroleum, Inc.        | Anderson, SC         | Self Way                                                           | 1                                               | N/A                 | 0                     |
| Trejo Oil Co.                    | Casa Grande, AZ      | Tiger Mart/Short Stop                                              | 1                                               | 25                  | 0                     |
| Tri-Valley Distributors Inc.     | Heber City, UT       | Tri-Mart                                                           | 6                                               | 40                  | 0                     |
| Triton, Inc.                     | Atlanta, GA          | Happy Store                                                        | 3                                               | 21                  | 0                     |
| Twin Lakes Petroleum Corp.       | Athens, TX           | Twin Stop                                                          | 1                                               | 7                   | 0                     |
| Ultramar, Inc.                   | Hanford, CA          | Ultramart                                                          | 2                                               | 178                 | 24                    |
| Ultra Power Corp.                | Monticello, NY       | Ultra Mart                                                         | 1                                               | 4                   | 0                     |
| Uni-Marts, Inc.                  | State College, PA    | Uni-Marts, Inc.                                                    | 5                                               | 315                 | 25                    |
| United Dairy Farmers             | Cincinnati, OH       | United Dairy Farmers                                               | 3                                               | 214                 | 0                     |
| United Refining Co. of PA        | Warren, PA           | Kwik Fill/Red Apple Food Mart                                      | 3                                               | 193                 | 0                     |
| UNOCAL Refining & Marketing Div. | Los Angeles, CA      | Self Serve Mart                                                    | 13                                              | N/A                 | N/A                   |
| U.S.A. Petroleum                 | Santa Monica, CA     | USA Mini Mart                                                      | 5                                               | 29                  | 0                     |
| Venta, Inc.                      | Denver, CO           | Convenience Plus                                                   | 4                                               | 44                  | 0                     |
| Verona Oil Co., Inc.             | Roscoe, NY           | The Country Store                                                  | 1                                               | 24                  | 0                     |
| Vista Marketing Group., Ltd.     | Rockford, IL         | Vista                                                              | 2                                               | 0                   | 6                     |
| Waco Oil Co.                     | Louisville, KY       | Waco Food Mart                                                     | 2                                               | 13                  | 0                     |
| Wades Foods, Inc.                | Christiansburg, VA   | Deli Mart & Food Time                                              | 1                                               | 21                  | 0                     |
| Wake Up Oil Co., Inc.            | Indianapolis, IN     | Mini Snack Shop                                                    | 1                                               | 5                   | 0                     |
| Walters Dimmick Petroleum        | Marshall, MI         | Speed-D Mart                                                       | 3                                               | 37                  | 0                     |
| Warehucbo, Inc.                  | Jacksonville, IL     | Wareco Country Store                                               | 5                                               | 67                  | 0                     |
| Warren Equities, Inc.            | New York, NY         | Xtra Mart                                                          | 7                                               | 127                 | 0                     |
| Warring Oil Co.                  | Jackson, MS          | Interstate Food Stop                                               | 2                                               | 27                  | 0                     |
| Wawa, Inc.                       | Wawa, PA             | Wawa Food Market                                                   | 5                                               | 485                 | 0                     |
| Webster Oil Co.                  | Springfield, MO      | E.J.'s                                                             | 1                                               | 4                   | 0                     |
| Weigels Farm Stores              | Powell, TN           | Weigels Farm Store                                                 | 1                                               | 38                  | 0                     |
| Welsh Oil Co.                    | Merrillville, IN     | All different                                                      | 2                                               | 21                  | 0                     |
| West Lynn Creamery               | Lynn, MA             | Richdale Dairy Stores, Inc.                                        | 2                                               | 25                  | 25                    |
| West Star Corp.                  | Olympia, WA          | Northwest Deli Mart                                                | 1                                               | 9                   | 0                     |
| West Texas Gas Inc.              | Midland, TX          | Friend's/Various                                                   | 1                                               | 12                  | 5                     |
| Western Energetics Corp.         | Reno, NV             | Exxon Winner's Corner                                              | 1                                               | 20                  | 0                     |
| Western Marketing, Inc.          | Abilene, TX          | Wes-T-Go, Inc.                                                     | 2                                               | 15                  | 0                     |
| Westgate Oil Co.                 | Muskegon, MI         | Wesco                                                              | 1                                               | 30                  | 0                     |
| Westland Enterprises             | Atkinson, NE         | Mr. G's                                                            | 2                                               | N/A                 | N/A                   |
| A.T. Williams Oil Co.            | Winston-Salem, NC    | Wilco Food Mart                                                    | 2                                               | 100                 | 0                     |
| J.H. Williams Oil Co., Inc.      | Tampa, FL            | 76 Mini-Mart                                                       | 1                                               | 85                  | —                     |
| Williamson Oil Co.               | Fort Payne, AL       | Discount Food Mart                                                 | 3                                               | 85                  | 0                     |
| The Willis Group, Inc.           | La Plata, MD         | Dash-In Food Store                                                 | 3                                               | 44                  | 0                     |
| Wind River Petroleum             | Salt Lake City, UT   | Top Store Circle C                                                 | 1                                               | 25                  | 0                     |
| Wooten Oil Co.                   | Goldsboro, NC        | Kwik Mart                                                          | 1                                               | 20                  | 0                     |
| Younger Oil Co.                  | Albany, OR           | Time Out                                                           | 1                                               | 2                   | 0                     |

| 1989<br>Total | 1990<br>Total | 1991<br>Current | 1991<br>Projected | Additions<br>Projected<br>in 1992 | Number<br>With<br>Gasoline | Avg. Gasoline Volume |           | Size Sq. Ft |             |
|---------------|---------------|-----------------|-------------------|-----------------------------------|----------------------------|----------------------|-----------|-------------|-------------|
|               |               |                 |                   |                                   |                            | Per Store            | Per Month | Mini        | Full        |
| N/A           | 176           | 181             | 184               | 8                                 | 159                        | —                    | 43,000    | —           | 2,500       |
| 51            | 50            | 51              | 52                | ?                                 | 51                         | —                    | 125,000   | —           | N/A         |
| 54            | 58            | 47              | 47                | 3                                 | 35                         | —                    | 60,000    | —           | 2,400       |
| N/A           | 108           | 109             | ?                 | ?                                 | 1                          | —                    | N/A       | —           | N/A         |
| 13            | 13            | 14              | ?                 | ?                                 | 14                         | N/A                  | N/A       | 500         | 1,500       |
| 94            | 94            | 29              | 31                | ?                                 | 27                         | —                    | 100,000   | —           | 2,000       |
| 100           | 103           | 103             | 110               | 10                                | 98                         | N/A                  | 60,000    | 700         | 1,800       |
| 25            | 24            | 24              | 24                | ?                                 | 24                         | —                    | 300,000   | —           | 1,000       |
| 620           | 510           | 786             | ?                 | ?                                 | —                          | —                    | N/A       | —           | N/A         |
| N/A           | 10            | 10              | 10                | 1-2                               | 6                          | 30,000               | 60,000    | 800         | 1,200       |
| 315           | 297           | 296             | 300               | 10                                | 291                        | —                    | 30,000    | —           | 2,400       |
| N/A           | 191           | 212             | 220               | 5-10                              | N/A                        | —                    | N/A       | —           | 2,400       |
| 6             | 6             | 6               | 7                 | 0                                 | 6                          | —                    | 100,000   | —           | 1,600       |
| 9             | 9             | 9               | 10                | 1                                 | 9                          | N/A                  | N/A       | 1,000       | 2,400       |
| 40            | 20            | 20              | 20                | 2                                 | 20                         | —                    | 100,000   | —           | 2,000       |
| N/A           | 26            | 26              | ?                 | ?                                 | 26                         | N/A                  | N/A       | N/A         | N/A         |
| 125           | 118           | 112             | 112               | 0                                 | 112                        | N/A                  | N/A       | 500         | 2,400       |
| 55            | 57            | 60              | 62                | 2-3                               | 60                         | 114,000              | 114,000   | 900         | 2,400       |
| N/A           | 54            | 64              | 67                | 2-3                               | 2                          | N/A                  | N/A       | N/A         | N/A         |
| 41            | 41            | 39              | 41                | 2                                 | 32                         | —                    | 55,000    | —           | 2,200       |
| N/A           | 454           | 471             | 496               | 42                                | 471                        | —                    | 115,000   | —           | N/A         |
| 19            | 19            | 19              | 19                | 0                                 | N/A                        | N/A                  | N/A       | N/A         | N/A         |
| 5             | 5             | 5               | 5                 | 0                                 | 5                          | —                    | 80,000    | —           | 3,000       |
| 8             | 15            | 16              | 16                | 2                                 | 9                          | 90,000               | 100,000   | 900         | 1,400       |
| 75            | 89            | 106             | 106               | 15                                | 106                        | —                    | N/A       | —           | 2,400       |
| N/A           | 134           | 151             | 156               | 13                                | 150                        | 100,000              | 51,000    | 1,000       | 2,000       |
| 63            | 70            | 71              | 71                | ?                                 | 71                         | N/A                  | N/A       | 1,000       | 2,200       |
| 173           | 170           | 169             | 174               | 10                                | 169                        | —                    | 133,000   | —           | 2,400       |
| 136           | 136           | 133             | 136               | 3                                 | 113                        | —                    | 3,200     | —           | 2,310       |
| 388           | 389           | 389             | 391               | 0                                 | 320                        | N/A                  | N/A       | N/A         | N/A         |
| N/A           | 104           | 104             | 108               | 0                                 | 94                         | —                    | N/A       | —           | N/A         |
| 8             | 6             | 6               | 7                 | ?                                 | 6                          | 175,000              | 240,000   | 200/800     | 2,000       |
| 534           | 630           | 627             | 697               | 12                                | 627                        | 120,000              | 150,000   | 670         | 1,900       |
| 100           | 120           | 130             | 135               | 3                                 | 130                        | —                    | 150,000   | —           | 2,000       |
| N/A           | 66            | 66              | ?                 | ?                                 | 66                         | —                    | N/A       | —           | 2,400       |
| 33            | 31            | 31              | 30                | 2                                 | 22                         | —                    | 50,000    | —           | 2,400       |
| 52            | 60            | 61              | ?                 | ?                                 | 61                         | N/A                  | N/A       | —           | N/A         |
| 31            | 31            | 31              | 31                | 2                                 | 21                         | —                    | 50,000    | —           | 2,400       |
| N/A           | N/A           | N/A             | N/A               | 0                                 | N/A                        | —                    | N/A       | —           | 1,000       |
| 25            | 25            | 25              | 28                | 4                                 | 25                         | 20,000               | 30,000    | 2,000       | 2,000+      |
| 37            | 39            | 40              | 40                | 2                                 | 40                         | N/A                  | N/A       | 1,000       | 1,600/2,000 |
| N/A           | 59            | 21              | 25                | ?                                 | 21                         | N/A                  | —         | —           | 1,800       |
| 4             | 6             | 7               | 9                 | ?                                 | 7                          | —                    | N/A       | —           | 1,000       |
| 114           | 202           | 202             | 232               | 30                                | 202                        | 122,000              | 155,000   | 800         | 1,500       |
| 4             | 4             | 4               | 7                 | 2                                 | 4                          | 25,000               | 60,000    | 500         | 2,000       |
| 342           | 339           | 340             | 342               | ?                                 | 205                        | —                    | 34,000    | —           | 2,500       |
| 214           | 214           | 214             | 230               | 20                                | 130                        | —                    | N/A       | —           | 3,200       |
| 110           | 192           | 193             | 194               | 5                                 | 189                        | 80,300               | 70,200    | 800         | 1,000       |
| 2,500         | 1,924         | 2,188           | N/A               | N/A                               | N/A                        | N/A                  | N/A       | 500/1,000   | 2,200       |
| N/A           | 11            | 29              | 30                | 2                                 | 29                         | 150,000              | 150,000   | 900         | 2,000       |
| 43            | 44            | 44              | 45                | ?                                 | 44                         | —                    | 78,000    | —           | 1,800       |
| 22            | 23            | 24              | 24                | 0                                 | 24                         | —                    | 42,000    | —           | 1,500       |
| 5             | 6             | 6               | 7                 | ?                                 | 16                         | —                    | 150,000   | —           | 2,000       |
| 13            | 13            | 13              | 13                | ?                                 | 13                         | N/A                  | N/A       | N/A         | N/A         |
| 18            | 18            | 21              | 21                | 2                                 | 9                          | —                    | N/A       | —           | N/A         |
| 5             | 5             | 5               | 5                 | 2                                 | 5                          | 100,000              | 100,000   | 400         | 2,500       |
| 39            | 39            | 37              | 37                | 0                                 | 37                         | N/A                  | N/A       | 1,000       | 2,500       |
| 72            | 62            | 67              | 74                | ?                                 | 67                         | N/A                  | N/A       | 900         | 2,400       |
| 71            | 123           | 127             | 134               | 11                                | 127                        | 93,000               | 52,000    | 600         | 1,300       |
| 22            | N/A           | 27              | 27                | 1                                 | 27                         | —                    | N/A       | —           | 2,800       |
| 465           | 483           | 485             | 490               | ?                                 | 8                          | —                    | N/A       | —           | 3,200       |
| 11            | 11            | 4               | 4                 | 0                                 | 4                          | N/A                  | N/A       | 900         | 2,400       |
| 35            | 37            | 38              | 40                | 2                                 | 36                         | N/A                  | N/A       | 900         | 2,200       |
| 28            | 20            | 21              | 24                | 3                                 | 21                         | —                    | N/A       | —           | 1,700       |
| 54            | 50            | 50              | 52                | 2                                 | 21                         | —                    | 50,000    | —           | 2,000       |
| 9             | 9             | 9               | 9                 | ?                                 | 9                          | —                    | 40,000    | —           | 2,000       |
| 11            | 15            | 17              | 19                | 3                                 | 17                         | N/A                  | N/A       | N/A         | 2,200       |
| 14            | 17            | 20              | 22                | 2                                 | 20                         | —                    | 175,000   | —           | 2,400       |
| 11            | 12            | 15              | 15                | 5                                 | 15                         | —                    | 65,000    | —           | 1,600       |
| 28            | 30            | 30              | 31                | 1                                 | 30                         | 125,000              | 125,000   | 1,000       | 2,000       |
| 24            | 24            | 25              | ?                 | 3                                 | 25                         | —                    | 30,000    | —           | 1,200       |
| 88            | 100           | 100             | 107               | ?                                 | 100                        | N/A                  | 125,000   | 800         | 2,400       |
| 6             | N/A           | N/A             | N/A               | N/A                               | 6                          | 100,000              | 150,000   | N/A         | 1,400       |
| 70            | 78            | 85              | 90                | 10                                | 85                         | N/A                  | 75,000    | N/A         | 2,400       |
| 32            | 44            | 44              | 46                | ?                                 | 38                         | —                    | 100,000   | —           | 2,200       |
| 20            | 26            | 25              | 25                | —                                 | 25                         | —                    | 60,000    | —           | 1,500/4,000 |
| 23            | 17            | 20              | 17                | 0                                 | 17                         | 80,000               | 80,000    | 600         | 1,900       |
| 1             | 2             | 2               | 3                 | 1-2                               | 2                          | —                    | 95,000    | —           | 1,500/1,800 |



(Continued from page 37)

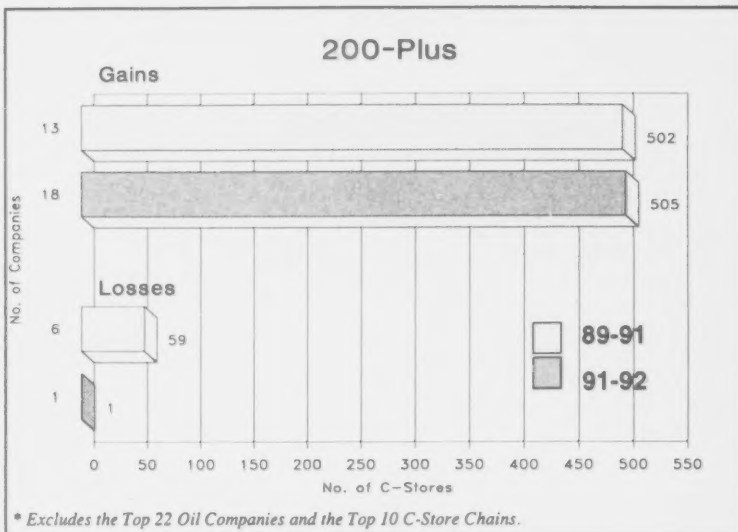
of store numbers at least, of the largest C-store companies. An analysis of the 10 largest C-store companies shows that only two companies increased their store counts since 1989—a total increase of only 56 stores—while five companies closed or disposed of a total of 1,392 stores.

The leading C-store chains don't figure to make up much ground in the next couple of years against their major competitors in the outlet count race. Five of the top 10 companies say they will add a total of 83 stores through the end of 1992, an average gain of 16 stores per company. One company, Circle K, is planning to cut loose an additional 259 stores during the same period.

Does this mean the oil companies are winning the battle for control of the convenience store market?

There's no question that majors, independent gasoline retailers and petroleum marketers have made big inroads into the traditional C-store business. Based on the data reported to NPN, that growth trend shows every sign of continuing.

However, the traditionals are seasoned warriors in this highly competitive retail market. They have too much experience and expertise in store operations, distribution, merchandising and all of the other



C-store arts to simply fold up their tents and steal away. Companies like NCS, Casey's, Wawa and many others continue to pioneer new concepts and retail strategies, taking the lead in niche marketing by adapting their product and service offerings to appeal to their local customer bases.

In the past 20 years, C-store firms have

also become significant players in the gasoline market. For all its troubles, Southland remains one of the largest independent gasoline marketers in the United States, with estimated annual retail sales of about 1.2-billion gal. of gasoline. Another portent for the future: Practically all new C-store being built by traditional chains today have gasoline facilities.

## C-STORE COMPARISON: TOP 10 MAJORS & C-STORE CHAINS

### Top 10 Oil Companies

(Direct-supplied outlets only)

| Company          | 1989<br>Total | 1990<br>Total | 1991<br>Current | 1991<br>Projected | 1992<br>Additions | Estimated<br>Marketer-Supplied<br>Outlets |
|------------------|---------------|---------------|-----------------|-------------------|-------------------|-------------------------------------------|
| Amoco            | 1,200         | 1,902         | 1,847           | N/A               | N/A               | 4,000                                     |
| Emro             | 1,600         | 1,668         | 1,668           | N/A               | N/A               | —                                         |
| Texaco*          | N/A           | N/A           | 1,371           | N/A               | N/A               | 5,447                                     |
| Mobil            | 800           | N/A           | 1,167           | 1,207             | N/A               | N/A                                       |
| Chevron          | N/A           | 1,030         | 1,030           | 1,080             | 50                | 2,900                                     |
| Clark            | N/A           | N/A           | 905             | N/A               | N/A               | —                                         |
| BP America       | 700           | 750           | 800             | 825               | 35                | N/A                                       |
| Sun              | 620           | 510           | 786             | N/A               | N/A               | 941**                                     |
| Diamond Shamrock | 617           | 680           | 763             | N/A               | N/A               | 1,000                                     |
| Arco             | 720           | 731           | 752             | N/A               | N/A               | —                                         |

\* Combined totals for Star Enterprise and Texaco Refining and Marketing.

\*\* Does not include Atlantic Division Marketer-Supplied Outlets.

### Top 10 C-Store Companies

| Company          | 1989<br>Total | 1990<br>Total | 1991<br>Current | 1991<br>Projected | 1991<br>Additions |
|------------------|---------------|---------------|-----------------|-------------------|-------------------|
| Southland        | 7,097         | 6,190         | 5,943           | N/A               | 0                 |
| Circle K         | 4,664         | 4,783         | 3,859           | 3,600             | 0                 |
| Dairy Mart       | N/A           | 1,189         | 1,189           | 1,170             | 20                |
| Cumberland Farms | 1,075         | 1,100         | 1,118           | N/A               | N/A               |
| Silcorp          | 1,130         | 999           | 999             | N/A               | N/A               |
| NCS              | 1,099         | 1,091         | 989             | 989               | 0                 |
| Casey's          | 732           | 769           | 781             | 800               | 30                |
| Kampgrounds      | 643           | 650           | 650             | 656               | 15                |
| Little Chef      | 560           | 560           | 560             | 570               | N/A               |
| The Pantry       | N/A           | N/A           | 448             | 450               | 0                 |

# Convenience Store Outlets

| Company                             | Number of Stores | Number of States Where Stores Are Located | New England |    |    |     |    |    | Middle Atlantic |    |    |    |    |
|-------------------------------------|------------------|-------------------------------------------|-------------|----|----|-----|----|----|-----------------|----|----|----|----|
|                                     |                  |                                           | ME          | NH | VT | MA  | RI | CT | NY              | NJ | PA | DE | MD |
| ABC Discount Stores                 | 48               | 1                                         | —           | —  | —  | —   | —  | —  | —               | —  | —  | —  | —  |
| Acme Petroleum Fuel Co., Inc.       | 76               | 2                                         | —           | —  | —  | —   | —  | —  | —               | —  | —  | —  | —  |
| Adens Minit Markets                 | 39               | 3                                         | —           | —  | —  | —   | —  | —  | —               | —  | —  | —  | —  |
| Aldin Associates                    | 31               | 1                                         | —           | —  | —  | —   | —  | 31 | —               | —  | —  | —  | —  |
| Allen Stop N Shops Inc.             | 55               | 2                                         | —           | —  | —  | —   | —  | —  | —               | —  | —  | —  | —  |
| Allsup's Convenience Stores, Inc.   | 305              | 3                                         | —           | —  | —  | —   | —  | —  | —               | —  | —  | —  | —  |
| Amerada Hess Co.                    | 127              | 5                                         | —           | —  | —  | —   | —  | —  | 30              | 40 | 13 | —  | —  |
| American Accessories Inc.           | 34               | 2                                         | —           | —  | —  | —   | —  | —  | —               | —  | —  | —  | —  |
| American Personnel Service          | 64               | 6                                         | —           | —  | —  | —   | —  | —  | —               | —  | —  | —  | —  |
| Amoco Oil Co.                       | 1,847            | 27                                        | —           | —  | —  | —   | —  | 17 | 137             | 14 | 21 | 3  | 30 |
| Arco Products Co.                   | 752              | 5                                         | —           | —  | —  | —   | —  | —  | —               | —  | —  | —  | —  |
| Arkansas Valley Petroleum Corp.     | 15               | 2                                         | —           | —  | —  | —   | —  | —  | —               | —  | —  | —  | —  |
| Ashland Oil Inc.                    | 662              | 17                                        | —           | —  | —  | —   | —  | —  | —               | —  | 5  | —  | —  |
| Atlas Oil Co.                       | 18               | 2                                         | 1           | —  | —  | —   | —  | 17 | —               | —  | —  | —  | —  |
| Aztex Enterprises                   | 21               | 1                                         | —           | —  | —  | —   | —  | —  | —               | —  | —  | —  | —  |
| B & B Cash Grocery Stores           | 33               | 1                                         | —           | —  | —  | —   | —  | —  | —               | —  | —  | —  | —  |
| Baron Oil Co.                       | 24               | 1                                         | —           | —  | —  | —   | —  | —  | —               | —  | —  | —  | —  |
| Beard Oil Co.                       | 6                | 1                                         | —           | —  | —  | —   | —  | —  | —               | —  | —  | —  | —  |
| Bearden Oil Co.                     | 11               | 1                                         | —           | —  | —  | —   | —  | —  | —               | —  | —  | —  | —  |
| Beck Suppliers                      | 2                | 1                                         | —           | —  | —  | —   | —  | —  | —               | —  | —  | —  | —  |
| Bedford Valley Petroleum Corp.      | 6                | 3                                         | —           | —  | —  | —   | —  | —  | —               | —  | 2  | —  | 3  |
| Bell Fuels, Inc.                    | 9                | 1                                         | —           | —  | —  | —   | —  | —  | —               | —  | —  | —  | —  |
| Berwick Bay Oil Co. Inc.            | 40               | 2                                         | —           | —  | —  | —   | —  | —  | —               | —  | —  | —  | —  |
| Best Oil Co.                        | 19               | 2                                         | —           | —  | —  | —   | —  | —  | —               | —  | X  | —  | —  |
| Big Apple Food Stores               | 43               | 2                                         | 40          | 3  | —  | —   | —  | —  | —               | —  | —  | —  | —  |
| Bi-Rite Petroleum, Inc.             | 3                | 1                                         | —           | —  | —  | —   | —  | —  | —               | —  | —  | —  | —  |
| Blaze Oil Co.                       | 5                | 1                                         | —           | —  | —  | —   | —  | —  | —               | —  | —  | —  | —  |
| Boardman Petroleum Inc.             | 50               | 5                                         | —           | —  | —  | —   | —  | —  | —               | —  | —  | —  | —  |
| Bosselman's Pump & Pantry           | 34               | 1                                         | —           | —  | —  | —   | —  | —  | —               | —  | —  | —  | —  |
| BP America, Inc.                    | 800              | 15                                        | —           | —  | —  | —   | —  | —  | —               | —  | 60 | —  | —  |
| Bradley, Inc.                       | 19               | 2                                         | —           | —  | —  | —   | —  | —  | —               | —  | —  | —  | —  |
| Broken Hill Prop./Pacific Resources | 10               | 1                                         | —           | —  | —  | —   | —  | —  | —               | —  | —  | —  | —  |
| Brooks Food Markets                 | 32               | 1                                         | —           | —  | —  | —   | —  | —  | —               | —  | —  | —  | —  |
| C.R. Brown Oil Co.                  | 19               | 3                                         | —           | —  | —  | —   | —  | —  | —               | —  | —  | —  | —  |
| Browning Oil Co.                    | 13               | 1                                         | —           | —  | —  | —   | —  | —  | —               | —  | —  | —  | —  |
| Burgess Marketing Inc.              | 50               | 1                                         | —           | —  | —  | —   | —  | —  | —               | —  | —  | —  | —  |
| Bursaw Oil Corp.                    | 8                | 1                                         | —           | —  | —  | 8   | —  | —  | —               | —  | —  | —  | —  |
| By-Lo Oil Co.                       | 15               | 1                                         | —           | —  | —  | —   | —  | —  | —               | —  | —  | —  | —  |
| Callahan Oil Co.                    | 21               | 6                                         | —           | 3  | 2  | 3   | 1  | 9  | 3               | —  | —  | —  | —  |
| Camp Oil Co.                        | 45               | 9                                         | —           | —  | —  | —   | —  | —  | —               | —  | —  | —  | —  |
| Campbell Oil Co.                    | 39               | 1                                         | —           | —  | —  | —   | —  | —  | —               | —  | —  | —  | —  |
| Cannon Oil Co.                      | 16               | 3                                         | —           | —  | —  | —   | —  | —  | —               | —  | —  | —  | —  |
| Casey's General Stores, Inc.        | 781              | 8                                         | —           | —  | —  | —   | —  | —  | —               | —  | —  | —  | —  |
| Cel Oil Products Corp.              | 7                | 1                                         | —           | —  | —  | —   | —  | —  | —               | —  | —  | —  | —  |
| CENEX Petroleum, Inc.               | 309              | 12                                        | —           | —  | —  | —   | —  | —  | —               | —  | —  | —  | —  |
| Centennial Liquor Stores            | 9                | 1                                         | —           | —  | —  | —   | —  | —  | —               | —  | —  | —  | —  |
| Center Independent Oil Co.          | 5                | 1                                         | —           | —  | —  | —   | —  | —  | —               | —  | —  | 5  | —  |
| Certified Oil Co.                   | 18               | 1                                         | —           | —  | —  | —   | —  | —  | —               | —  | —  | —  | —  |
| CF Marts of Pennsylvania            | 27               | 1                                         | —           | —  | —  | —   | —  | —  | —               | —  | 27 | —  | —  |
| CFM Development Corp.               | 29               | 2                                         | —           | —  | —  | —   | —  | —  | —               | —  | —  | —  | —  |
| Chapman, Inc.                       | 15               | 1                                         | —           | —  | —  | —   | —  | —  | —               | —  | —  | —  | —  |
| Chevron USA, Inc.                   | 1,030            | 25                                        | —           | —  | —  | —   | —  | —  | —               | —  | —  | —  | 7  |
| Chico Dairy, Inc.                   | 39               | 4                                         | —           | —  | —  | —   | —  | —  | —               | —  | 8  | —  | 2  |
| CHR Corp.                           | 51               | 1                                         | —           | —  | —  | —   | —  | —  | —               | —  | 51 | —  | —  |
| Christy's Markets, Inc.             | 134              | 4                                         | 1           | 10 | —  | 121 | 2  | —  | —               | —  | —  | —  | —  |
| Circle C Food Stores                | 30               | 1                                         | —           | —  | —  | —   | —  | —  | —               | —  | —  | —  | —  |
| The Circle K Corp.                  | 3,859            | 32                                        | 2           | 10 | —  | 45  | —  | 6  | —               | —  | —  | —  | —  |
| Citgo Petroleum Corp.               | 15               | 2                                         | —           | —  | —  | —   | —  | —  | —               | —  | —  | —  | —  |
| Clark Oil & Refining Corp.          | 905              | 12                                        | —           | —  | —  | —   | —  | —  | —               | —  | X  | —  | —  |
| Clipper Petroleum, Inc.             | 19               | 1                                         | —           | —  | —  | —   | —  | —  | —               | —  | —  | —  | —  |
| Cloud Enterprises, Inc.             | 29               | 1                                         | —           | —  | —  | —   | —  | —  | —               | —  | —  | —  | —  |
| Coastal Refining and Marketing      | 572              | 28                                        | X           | —  | —  | —   | —  | —  | —               | X  | X  | —  | X  |
| CoCo Marts, Inc.                    | 17               | 3                                         | —           | 7  | 8  | —   | —  | —  | 2               | —  | —  | —  | —  |
| CoGo's Co.                          | 65               | 1                                         | —           | —  | —  | —   | —  | —  | —               | —  | 65 | —  | —  |
| Colonial Oil Industries, Inc.       | 7                | 3                                         | —           | —  | —  | —   | —  | —  | —               | —  | —  | —  | —  |
| Como Oil Co.                        | 15               | 2                                         | —           | —  | —  | —   | —  | —  | —               | —  | —  | —  | —  |
| Conoco, Inc.                        | 476              | 22                                        | —           | —  | —  | —   | —  | —  | —               | —  | —  | 2  | —  |
| Consumers Gasoline Stations, Inc.   | 45               | 3                                         | —           | —  | —  | —   | —  | —  | —               | —  | —  | —  | —  |
| Con Sun Food Industries             | 36               | 1                                         | —           | —  | —  | —   | —  | —  | —               | —  | —  | —  | —  |
| Contemporary Industries Corp.       | 115              | 7                                         | —           | —  | —  | —   | —  | —  | —               | —  | —  | —  | —  |
| Convenience Marketers Inc.          | 23               | 2                                         | —           | —  | —  | —   | —  | —  | —               | —  | —  | —  | —  |
| Convenient Food Mart                | 479              | 16                                        | —           | —  | —  | —   | —  | —  | 79              | —  | 26 | —  | 4  |

X = Exact number unknown, but company operates stores in the state.

# in the United States

| South Atlantic |     |    |     |     |    |    | East North Central |    |     |     |    | East South Central |    |    |    | West North |     |     |    |
|----------------|-----|----|-----|-----|----|----|--------------------|----|-----|-----|----|--------------------|----|----|----|------------|-----|-----|----|
| DC             | NC  | SC | FL  | GA  | VA | WV | OH                 | IN | IL  | MI  | WI | KY                 | TN | AL | MS | MN         | IA  | MO  | ND |
| —              | —   | —  | —   | —   | —  | —  | —                  | —  | —   | —   | —  | —                  | —  | —  | —  | —          | —   | —   | —  |
| —              | 59  | 17 | —   | —   | —  | —  | —                  | —  | —   | —   | —  | —                  | —  | —  | —  | —          | —   | —   | —  |
| —              | —   | —  | 1   | 37  | —  | —  | —                  | —  | —   | —   | —  | —                  | —  | 1  | —  | —          | —   | —   | —  |
| —              | —   | —  | —   | —   | —  | —  | —                  | —  | —   | —   | —  | —                  | —  | —  | —  | —          | —   | —   | —  |
| —              | —   | 14 | 30  | —   | —  | —  | —                  | —  | —   | —   | —  | —                  | —  | —  | —  | —          | —   | —   | —  |
| —              | —   | —  | —   | —   | 4  | 30 | —                  | —  | —   | —   | —  | —                  | —  | —  | —  | —          | —   | —   | —  |
| 14             | 19  | 9  | 347 | 100 | 58 | —  | —                  | 74 | 247 | 148 | 62 | —                  | 32 | —  | —  | 123        | 71  | 96  | 24 |
| —              | —   | —  | 41  | —   | —  | 50 | 118                | 7  | 20  | 7   | 83 | 93                 | —  | —  | —  | 188        | 12  | 3   | 5  |
| —              | —   | —  | —   | —   | —  | —  | —                  | —  | —   | —   | —  | —                  | 21 | —  | —  | —          | —   | —   | —  |
| —              | —   | —  | 33  | —   | —  | —  | —                  | —  | —   | —   | —  | —                  | —  | —  | —  | —          | —   | —   | —  |
| —              | —   | —  | 24  | —   | —  | —  | —                  | —  | —   | —   | —  | —                  | —  | —  | —  | —          | —   | —   | —  |
| —              | —   | —  | —   | 11  | —  | —  | —                  | —  | —   | —   | —  | —                  | —  | —  | —  | —          | —   | —   | —  |
| —              | —   | —  | —   | —   | —  | 1  | —                  | —  | 9   | —   | —  | —                  | —  | —  | —  | —          | —   | —   | —  |
| —              | —   | —  | —   | —   | —  | —  | X                  | —  | —   | —   | —  | —                  | —  | 32 | —  | —          | —   | —   | —  |
| —              | —   | —  | —   | —   | —  | —  | —                  | —  | —   | —   | —  | —                  | —  | —  | —  | —          | —   | 3   | —  |
| —              | 7   | 17 | 1   | 21  | 4  | —  | —                  | —  | —   | —   | —  | —                  | —  | —  | —  | —          | —   | —   | —  |
| —              | 55  | 40 | 85  | 50  | 20 | 10 | 400                | —  | —   | —   | —  | 30                 | 40 | 30 | 5  | —          | —   | —   | —  |
| —              | —   | —  | —   | —   | —  | —  | —                  | —  | —   | —   | —  | —                  | —  | —  | —  | —          | —   | —   | —  |
| —              | —   | —  | —   | —   | —  | —  | —                  | —  | —   | —   | —  | —                  | —  | —  | —  | 32         | —   | —   | —  |
| —              | —   | —  | —   | —   | —  | —  | —                  | —  | —   | —   | —  | 13                 | —  | —  | —  | —          | —   | —   | —  |
| —              | —   | —  | —   | —   | —  | —  | —                  | —  | —   | 15  | —  | —                  | —  | —  | —  | —          | —   | —   | —  |
| —              | 7   | 8  | 8   | 12  | 3  | —  | 1                  | —  | —   | —   | —  | 1                  | 4  | —  | 1  | —          | —   | —   | —  |
| —              | —   | —  | 2   | 1   | —  | —  | 39                 | —  | —   | —   | —  | —                  | —  | 13 | —  | —          | —   | —   | —  |
| —              | —   | —  | —   | —   | —  | —  | —                  | —  | 133 | —   | 1  | —                  | —  | —  | —  | 27         | 295 | 210 | —  |
| —              | —   | 7  | —   | —   | —  | —  | —                  | —  | —   | 3   | 5  | —                  | —  | —  | —  | 71         | 18  | —   | 35 |
| —              | —   | —  | —   | —   | —  | —  | —                  | —  | —   | —   | —  | —                  | —  | —  | —  | —          | —   | —   | —  |
| —              | —   | —  | —   | —   | —  | —  | 18                 | —  | —   | —   | —  | —                  | —  | —  | —  | —          | —   | —   | —  |
| —              | —   | —  | —   | —   | —  | X  | X                  | —  | —   | —   | —  | —                  | —  | —  | —  | —          | —   | —   | —  |
| 1              | —   | 1  | 157 | 51  | 40 | 9  | 8                  | 1  | —   | —   | —  | 27                 | 2  | 28 | 1  | —          | —   | —   | —  |
| —              | —   | —  | —   | —   | —  | 28 | 1                  | —  | —   | —   | —  | —                  | —  | —  | —  | —          | —   | —   | —  |
| —              | —   | —  | —   | —   | —  | —  | —                  | —  | —   | —   | —  | —                  | —  | —  | —  | —          | —   | —   | —  |
| —              | 102 | 39 | 708 | 184 | —  | —  | 22                 | 1  | —   | 1   | —  | 4                  | 42 | 30 | 79 | —          | —   | 24  | —  |
| —              | —   | —  | —   | —   | —  | X  | X                  | X  | X   | X   | X  | X                  | —  | —  | —  | X          | X   | X   | —  |
| —              | —   | —  | —   | 19  | —  | —  | —                  | —  | —   | —   | —  | —                  | —  | —  | —  | —          | —   | —   | —  |
| —              | X   | X  | X   | X   | X  | X  | —                  | X  | X   | —   | —  | X                  | X  | 29 | X  | X          | X   | X   | —  |
| —              | —   | —  | —   | —   | —  | —  | —                  | —  | —   | —   | —  | —                  | —  | —  | —  | —          | —   | —   | —  |
| —              | 1   | 1  | —   | 5   | —  | —  | —                  | —  | —   | —   | X  | —                  | —  | —  | —  | X          | —   | —   | —  |
| —              | 33  | 24 | 39  | 44  | 26 | 4  | 23                 | —  | —   | —   | —  | —                  | 56 | 32 | 2  | 28         | 1   | 8   | 3  |
| —              | —   | —  | —   | —   | —  | —  | 36                 | —  | —   | —   | —  | 5                  | 30 | 10 | —  | —          | —   | —   | —  |
| —              | —   | —  | —   | —   | —  | —  | —                  | —  | —   | —   | —  | —                  | —  | —  | —  | 2          | 18  | —   | 6  |
| —              | —   | —  | —   | —   | —  | —  | —                  | —  | —   | —   | —  | —                  | X  | X  | —  | —          | —   | —   | —  |
| —              | —   | —  | 2   | —   | —  | 28 | 175                | 89 | 8   | —   | —  | 6                  | —  | —  | —  | —          | 1   | 39  | —  |



# Convenience Store Outlets

| Company                            | Number of Stores | Number of States Where Stores Are Located | New England |    |    |     |    | Middle Atlantic |     |     |     | DE | MD |
|------------------------------------|------------------|-------------------------------------------|-------------|----|----|-----|----|-----------------|-----|-----|-----|----|----|
|                                    |                  |                                           | ME          | NH | VT | MA  | Ri | CT              | NY  | NJ  | PA  |    |    |
| Convenient Petroleum Corp.         | 9                | 1                                         | —           | —  | —  | —   | —  | 9               | —   | —   | —   | —  | —  |
| Country Cupboard Food Stores, Inc. | 41               | 1                                         | —           | —  | —  | —   | —  | —               | X   | —   | X   | —  | —  |
| Country Fair, Inc.                 | 50               | 3                                         | —           | —  | —  | —   | —  | —               | —   | —   | —   | —  | —  |
| Cox Oil Co.                        | 24               | 1                                         | —           | —  | —  | —   | —  | —               | —   | —   | —   | —  | —  |
| Cracker Barrel Stores, Inc.        | 61               | 1                                         | —           | —  | —  | —   | —  | —               | —   | —   | —   | —  | —  |
| Crown Central Petroleum Corp.      | 564              | 9                                         | —           | —  | —  | —   | —  | —               | —   | —   | 2   | —  | 97 |
| Crown Oil Co.                      | 26               | 3                                         | —           | —  | —  | —   | —  | —               | —   | —   | —   | —  | —  |
| Crystal Flash Petroleum            | 24               | 1                                         | —           | —  | —  | —   | —  | —               | —   | —   | —   | —  | —  |
| Cumberland Farms, Inc.             | 1,118            | 11                                        | 47          | 57 | 24 | 283 | 90 | 93              | 143 | 117 | 67  | 13 | —  |
| Curt's Oil Co., Inc.               | 13               | 3                                         | —           | —  | —  | —   | —  | —               | —   | —   | —   | —  | —  |
| Curtis Parker Oil Co. Inc.         | 4                | 1                                         | —           | —  | —  | —   | —  | —               | —   | —   | —   | —  | —  |
| Dairy Mart Convenience Stores      | 1,189            | 11                                        | —           | —  | —  | 88  | 40 | 76              | 41  | —   | 47  | —  | —  |
| Davis Co., Inc.                    | 20               | 1                                         | —           | —  | —  | —   | —  | —               | —   | —   | —   | —  | —  |
| J.M. Davis Inc.                    | 19               | 1                                         | —           | —  | —  | —   | —  | —               | —   | —   | —   | —  | —  |
| Day & Night Food Stores, Inc.      | 18               | 1                                         | —           | —  | —  | —   | —  | —               | 18  | —   | —   | —  | —  |
| Dead River Oil Co.                 | 9                | 2                                         | 7           | 2  | —  | —   | —  | —               | —   | —   | —   | —  | —  |
| DeBlois Oil Co.                    | 29               | 2                                         | —           | —  | —  | 8   | 21 | —               | —   | —   | —   | —  | —  |
| Delicatessen Dist. Inc.            | 20               | 2                                         | —           | —  | —  | —   | —  | —               | —   | —   | 19  | —  | —  |
| Delta Sonic Carwash Systms         | 19               | 2                                         | —           | —  | —  | —   | —  | —               | 14  | —   | —   | —  | —  |
| Diamond Shamrock                   | 763              | 3                                         | —           | —  | —  | —   | —  | —               | —   | —   | —   | —  | —  |
| Dilmar Oil Co.                     | 22               | 1                                         | —           | —  | —  | —   | —  | —               | —   | —   | —   | —  | —  |
| District Petroleum Products        | 25               | 1                                         | —           | —  | —  | —   | —  | —               | —   | —   | —   | —  | —  |
| Dixie Oil Co.                      | 68               | 3                                         | —           | —  | —  | —   | —  | —               | —   | —   | —   | —  | —  |
| Down East Energy Co.               | 22               | 2                                         | 20          | 2  | —  | —   | —  | —               | —   | —   | —   | —  | —  |
| Drakes Refinery Stations           | 16               | 1                                         | —           | —  | —  | —   | —  | —               | —   | —   | —   | —  | —  |
| Dunn Oil Co.                       | 6                | 1                                         | —           | —  | —  | —   | —  | —               | —   | —   | —   | —  | —  |
| East Coast Oil Corp.               | 35               | 1                                         | —           | —  | —  | —   | —  | —               | —   | —   | —   | —  | —  |
| Eastern Fuels, Inc.                | 43               | 2                                         | —           | —  | —  | —   | —  | —               | —   | —   | —   | —  | —  |
| Emro Marketing Co.                 | 1,668            | 16                                        | —           | —  | —  | —   | —  | —               | —   | —   | —   | —  | —  |
| Englefield Oil Co.                 | 53               | 2                                         | —           | —  | —  | —   | —  | —               | —   | —   | —   | —  | —  |
| Entrepreneur Inc.                  | 159              | 5                                         | —           | —  | —  | —   | —  | —               | —   | —   | —   | —  | —  |
| Erickson Oil Products, Inc.        | 45               | 4                                         | —           | —  | —  | —   | —  | —               | —   | —   | —   | —  | —  |
| Evans Group                        | 7                | 2                                         | —           | 5  | 2  | —   | —  | —               | —   | —   | —   | —  | —  |
| Ever Ready Oil Co.                 | 10               | 1                                         | —           | —  | —  | —   | —  | —               | —   | —   | —   | —  | —  |
| Express Lane, Inc.                 | 30               | 2                                         | —           | —  | —  | —   | —  | —               | —   | —   | —   | —  | —  |
| Exxon Co., USA                     | 696              | 27                                        | —           | 7  | —  | 13  | 1  | 5               | 8   | 51  | 35  | 8  | 20 |
| EZ Mart Stores, Inc.               | 324              | 5                                         | —           | —  | —  | —   | —  | —               | —   | —   | —   | —  | —  |
| E-Z Serve Inc.                     | 55               | 1                                         | —           | —  | —  | —   | —  | —               | —   | —   | —   | —  | —  |
| Farm & Home Oil Co.                | 5                | 1                                         | —           | —  | —  | —   | —  | —               | —   | —   | 5   | —  | —  |
| Farm Fresh, Inc.                   | 17               | 2                                         | —           | —  | —  | —   | —  | —               | —   | —   | —   | —  | —  |
| Farmland Industries                | 26               | 9                                         | —           | —  | —  | —   | —  | —               | —   | —   | —   | —  | —  |
| Farm Stores, Inc.                  | 228              | 1                                         | —           | —  | —  | —   | —  | —               | —   | —   | —   | —  | —  |
| Fas Mart Convenient Stores         | 42               | 1                                         | —           | —  | —  | —   | —  | —               | —   | —   | —   | —  | —  |
| Favorite Market                    | 86               | 3                                         | —           | —  | —  | —   | —  | —               | —   | —   | —   | —  | —  |
| Fearless Oil Co.                   | 32               | 3                                         | —           | —  | —  | —   | —  | —               | —   | —   | —   | —  | —  |
| FINA Oil & Chemical Co.            | 148              | 7                                         | —           | —  | —  | —   | —  | —               | —   | —   | —   | —  | —  |
| FKG Oil Co.                        | 51               | 6                                         | —           | —  | —  | —   | —  | —               | —   | —   | —   | —  | —  |
| Flash Foods, Inc.                  | 94               | 2                                         | —           | —  | —  | —   | —  | —               | —   | —   | —   | —  | —  |
| Fleming Petroleum, Inc.            | 4                | 1                                         | —           | —  | —  | —   | —  | —               | —   | —   | —   | —  | —  |
| Fleet Oil Co.                      | 13               | 2                                         | —           | —  | —  | —   | —  | —               | —   | —   | —   | —  | —  |
| Flying J, Inc.                     | 35               | 8                                         | —           | —  | —  | —   | —  | —               | —   | —   | —   | —  | —  |
| Food N Fuel Inc.                   | 4                | 1                                         | —           | —  | —  | —   | —  | —               | —   | —   | —   | —  | —  |
| Food Spot Management               | 40               | 1                                         | —           | —  | —  | —   | —  | —               | —   | —   | —   | —  | —  |
| Foster Oil Co.                     | 19               | 1                                         | —           | —  | —  | —   | —  | —               | —   | —   | —   | —  | —  |
| Four Star Service Stations, Inc.   | 10               | 1                                         | —           | —  | —  | —   | —  | —               | —   | —   | —   | —  | —  |
| Fresh Way Food Stores              | 22               | 1                                         | —           | —  | —  | —   | —  | —               | —   | —   | —   | —  | —  |
| H.N. Funkhouser & Co.              | 11               | 1                                         | —           | —  | —  | —   | —  | —               | —   | —   | —   | —  | —  |
| Garb Co. Inc.                      | 159              | 4                                         | —           | —  | —  | —   | —  | —               | —   | —   | —   | —  | —  |
| Gas America Services, Inc.         | 40               | 2                                         | —           | —  | —  | —   | —  | —               | —   | —   | —   | —  | —  |
| Gasco Gasoline, Inc.               | 11               | 1                                         | —           | —  | —  | —   | —  | —               | —   | —   | —   | —  | —  |
| Gas Mart                           | 11               | 1                                         | —           | —  | —  | —   | —  | —               | —   | —   | —   | —  | —  |
| Gas N Shop Inc.                    | 40               | 2                                         | —           | —  | —  | —   | —  | —               | —   | —   | —   | —  | —  |
| Gate Marketing                     | 128              | 9                                         | —           | —  | —  | —   | —  | —               | —   | —   | —   | —  | —  |
| General Oil                        | 31               | 1                                         | —           | —  | —  | —   | —  | —               | —   | —   | —   | —  | —  |
| Getty Petroleum Corp.              | 561              | 10                                        | 46          | 28 | 22 | 40  | 3  | 32              | 153 | 31  | 142 | —  | —  |
| Giant Industries, Inc.             | 44               | 3                                         | —           | —  | —  | —   | —  | —               | —   | —   | —   | —  | —  |
| Golden Gallon, Inc.                | 105              | 2                                         | —           | —  | —  | —   | —  | —               | —   | —   | —   | —  | —  |
| Golden Pantry Food Stores          | 97               | 2                                         | —           | —  | —  | —   | —  | —               | —   | —   | —   | —  | —  |
| Golub Corp.                        | 5                | 1                                         | —           | —  | —  | —   | —  | —               | 5   | —   | —   | —  | —  |
| Go-Mart, Inc.                      | 64               | 3                                         | —           | —  | —  | —   | —  | —               | —   | —   | —   | —  | —  |
| Good Time Stores                   | 41               | 1                                         | —           | —  | —  | —   | —  | —               | —   | —   | —   | —  | —  |
| Gresham Petroleum, Inc.            | 28               | 2                                         | —           | —  | —  | —   | —  | —               | —   | —   | —   | —  | —  |
| Gull Industries Inc.               | 32               | 3                                         | —           | —  | —  | —   | —  | —               | —   | —   | —   | —  | —  |
| Guttman Oil Co.                    | 27               | 1                                         | —           | —  | —  | —   | —  | —               | —   | —   | 27  | —  | —  |
| Hallum Oil Co.                     | 11               | 1                                         | —           | —  | —  | —   | —  | —               | —   | —   | —   | —  | —  |



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| —  | 38  | 80  | 89  | 89 | —  | 4  | 449 | 303 | 150 | 268 | 58 | 62  | 16 | 13 | 22 | —  | —  | —  | —  |
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# Convenience Store Outlets

| Company                                   | Number of Stores | Number of States Where Stores Are Located | New England |    |    |    |    |    | Middle Atlantic |    |    |    |    |
|-------------------------------------------|------------------|-------------------------------------------|-------------|----|----|----|----|----|-----------------|----|----|----|----|
|                                           |                  |                                           | ME          | NH | VT | MA | RI | CT | NY              | NJ | PA | DE | MD |
| Handee Marts Food Stores                  | 18               | 1                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Handy Andy Pantries                       | 24               | 2                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Happy Food Stores, Inc.                   | 20               | 1                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Harper Oil Co.                            | 22               | 1                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Harris Oil Co.                            | 2                | 1                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Hawaiian Independent Refinery, Inc.       | 29               | 1                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Herdrich Petroleum Corp.                  | 17               | 1                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Herkimer Petroleum Products               | 23               | 1                                         | —           | —  | —  | —  | —  | —  | 23              | —  | —  | —  | —  |
| Herndon Oil Co.                           | 20               | 2                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Herndon Oil Corp.                         | 36               | 3                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Highs Dairy Stores                        | 192              | 5                                         | —           | —  | —  | —  | —  | —  | —               | —  | 11 | —  | 90 |
| Angus I. Hines, Inc.                      | 32               | 3                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Holiday Oil Co.                           | 24               | 1                                         | —           | —  | 24 | —  | —  | —  | —               | —  | —  | —  | —  |
| Holiday Station Stores Inc.               | 242              | 7                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Holland Oil Co.                           | 31               | 1                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Horkey Oil Co., Inc.                      | 21               | 1                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Howdy Doody Inc.                          | 20               | 1                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Hudson Oil Co.                            | 11               | 2                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Huges Energy, Inc.                        | 10               | 1                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Hull Oil Co.                              | 6                | 1                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Huntley Jiffy Stores                      | 480              | 2                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Imperial Oil Co.                          | 38               | 2                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Independent Retailers Assn.               | 38               | 1                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| J & L Oil Co.                             | 29               | 3                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Jaco Oil Co.                              | 35               | 2                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Jacobus Petroleum Products, Inc.          | 12               | 1                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| JFM, Inc.                                 | 450              | 18                                        | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Jiffy Food Stores                         | 20               | 1                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Jiffy Marts                               | 17               | 3                                         | —           | —  | 8  | 8  | —  | —  | —               | 1  | —  | —  | —  |
| Jim Dandy Markets, Inc.                   | 32               | 1                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Johnny's Quik Food                        | 23               | 1                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Johnson Oil Co.                           | 62               | 2                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| R.L. Jordan Oil Co. of No. Carolina, Inc. | 36               | 3                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Junior Food Stores                        | 104              | 2                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Jr. Food Stores, Inc.                     | 54               | 2                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Kaibab Industries                         | 18               | 1                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Kampgrounds of America, Inc.              | 650              | 47                                        | 3           | 4  | 1  | 5  | —  | —  | 20              | 1  | 14 | —  | 1  |
| Kangaroo, Inc.                            | 32               | 1                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| L. Keller Oil Properties, Inc.            | 42               | 1                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Kelley Williamson Co.                     | 21               | 1                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Kenny's Markets                           | 24               | 1                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Kent Distributors, Inc.                   | 17               | 1                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Kenyon Oil Co.                            | 127              | 7                                         | 10          | 8  | —  | 29 | 21 | 32 | 24              | —  | 3  | —  | —  |
| Kerr-McGee Refining Corp.                 | 1,043            | 19                                        | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Kimber Petroleum Corp.                    | 4                | 1                                         | —           | —  | —  | —  | —  | —  | —               | 4  | —  | —  | —  |
| King & King Enterprises, Inc.             | 30               | 3                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Kocolene Oil Corp.                        | 20               | 2                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Krause Gentle Corp.                       | 140              | 6                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Krist Oil Co.                             | 35               | 2                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Kwickie Food Stores, Inc.                 | 52               | 1                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Kwik King Food Stores                     | 54               | 1                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Kwik Sak                                  | 33               | 1                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Kwik Shop, Inc.                           | 209              | 5                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Kwik Trip, Inc.                           | 219              | 3                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Kwik Way, Inc.                            | 21               | 1                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Landhope Farms                            | 18               | 3                                         | —           | —  | —  | 3  | —  | —  | —               | —  | 12 | 3  | —  |
| Lassus Bros. Oil Inc.                     | 20               | 1                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| LDD Corp.                                 | 8                | 1                                         | —           | —  | —  | —  | —  | —  | —               | 8  | —  | —  | —  |
| Ledbetter Oil Co.                         | 15               | 1                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Carols R. Leffler                         | 40               | 1                                         | —           | —  | —  | —  | —  | —  | —               | —  | 40 | —  | —  |
| H.C. Lewis Oil Co.                        | 5                | 1                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Lindner Dairy Centers                     | 9                | 1                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Lipscomb Oil Co., Inc.                    | 16               | 2                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Little Chef Stores                        | 560              | 2                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Loaf N Jug                                | 69               | 3                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Lowe's Food Stores Inc.                   | 21               | 1                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| The Lyden Co.                             | 55               | 1                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Lykins Oil Co.                            | 9                | 2                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Mapco Petroleum, Inc.                     | 320              | 10                                        | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Marathon Oil Co.                          | 408              | 9                                         | —           | —  | —  | —  | —  | —  | —               | —  | X  | —  | —  |
| Maritime Energy Co.                       | 5                | 1                                         | 5           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Marsh Village Pantries, Inc.              | 170              | 2                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Martin & Bayley Inc.                      | 96               | 5                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Martin Oil Co.                            | 18               | 1                                         | —           | —  | —  | —  | —  | —  | —               | —  | 18 | —  | —  |
| Martin Oil Marketing, Ltd.                | 43               | 2                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |

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| South Atlantic |    |    |     |     |    |    | East North Central |     |    |    |     | East South Central |     |    |    | West North |     |    |    |
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| DC             | NC | SC | FL  | GA  | VA | WV | OH                 | IN  | IL | MI | WI  | KY                 | TN  | AL | MS | MN         | IA  | MO | ND |
| --             | -- | 18 | --  | --  | -- | -- | --                 | --  | -- | -- | --  | --                 | --  | -- | -- | --         | --  | -- | -- |
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| --             | -- | -- | --  | --  | -- | -- | --                 | --  | 22 | -- | --  | --                 | --  | -- | -- | --         | --  | -- | -- |
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| --             | -- | -- | --  | --  | -- | -- | --                 | 17  | -- | -- | --  | --                 | --  | -- | -- | --         | --  | -- | -- |
| --             | -- | -- | --  | 9   | -- | -- | --                 | --  | -- | -- | --  | 11                 | --  | -- | -- | --         | --  | -- | -- |
| --             | -- | -- | 1   | 7   | -- | -- | --                 | --  | -- | -- | --  | 28                 | --  | -- | -- | --         | --  | -- | -- |
| 3              | -- | -- | --  | --  | 64 | 14 | --                 | --  | -- | -- | --  | --                 | --  | -- | -- | --         | --  | -- | -- |
| --             | 1  | -- | --  | --  | 30 | 1  | --                 | --  | -- | -- | --  | --                 | --  | -- | -- | --         | --  | -- | -- |
| --             | -- | -- | --  | --  | -- | -- | --                 | --  | -- | -- | --  | --                 | --  | -- | -- | --         | --  | -- | -- |
| --             | -- | -- | --  | --  | -- | -- | 31                 | --  | -- | 27 | 40  | --                 | --  | -- | -- | 141        | 12  | -- | 8  |
| --             | -- | -- | --  | --  | -- | -- | --                 | --  | -- | -- | --  | --                 | --  | -- | -- | --         | --  | -- | -- |
| --             | -- | -- | --  | --  | -- | -- | --                 | --  | -- | -- | --  | --                 | --  | -- | -- | --         | --  | -- | -- |
| --             | -- | -- | 10  | --  | -- | -- | --                 | --  | -- | -- | --  | --                 | --  | -- | -- | --         | --  | -- | -- |
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| --             | -- | -- | 380 | 100 | -- | -- | --                 | --  | -- | -- | --  | --                 | --  | -- | -- | --         | --  | -- | -- |
| --             | -- | -- | --  | --  | -- | -- | --                 | 2   | -- | 36 | --  | --                 | --  | -- | -- | --         | --  | -- | -- |
| --             | -- | -- | --  | 5   | -- | -- | --                 | --  | 19 | -- | 5   | --                 | --  | -- | -- | --         | --  | -- | -- |
| --             | -- | -- | --  | --  | -- | -- | --                 | --  | -- | -- | 12  | --                 | --  | -- | -- | --         | --  | -- | -- |
| --             | X  | X  | X   | X   | -- | X  | X                  | X   | X  | -- | --  | X                  | X   | X  | X  | --         | --  | -- | -- |
| --             | -- | -- | 1   | --  | -- | -- | --                 | --  | -- | -- | --  | --                 | --  | -- | -- | --         | --  | -- | -- |
| --             | -- | -- | --  | --  | -- | -- | --                 | 32  | -- | -- | --  | --                 | --  | -- | -- | --         | --  | -- | -- |
| --             | -- | -- | --  | --  | -- | -- | --                 | 60  | -- | -- | --  | 2                  | --  | -- | -- | --         | --  | -- | -- |
| --             | 9  | 23 | --  | 4   | -- | -- | --                 | --  | -- | -- | --  | --                 | --  | -- | -- | --         | --  | -- | -- |
| --             | -- | -- | 84  | --  | -- | -- | --                 | --  | -- | -- | --  | --                 | --  | 20 | -- | --         | --  | -- | -- |
| --             | -- | -- | --  | --  | -- | -- | --                 | --  | -- | -- | --  | 42                 | 12  | -- | -- | --         | --  | -- | -- |
| 2              | 10 | 10 | 56  | 9   | 16 | 1  | 12                 | 13  | 10 | 16 | 8   | 12                 | 27  | 3  | 4  | 16         | 5   | 19 | 4  |
| --             | -- | -- | --  | 32  | -- | -- | --                 | --  | 42 | -- | --  | --                 | --  | -- | -- | --         | --  | -- | -- |
| --             | -- | -- | --  | --  | -- | -- | --                 | --  | 21 | -- | --  | --                 | --  | -- | -- | --         | --  | -- | -- |
| --             | -- | -- | --  | --  | -- | -- | --                 | --  | -- | -- | --  | --                 | --  | -- | -- | --         | 24  | -- | -- |
| --             | -- | -- | 7   | --  | -- | -- | --                 | 6   | 60 | -- | 25  | 4                  | 18  | 3  | 13 | 15         | 77  | 80 | -- |
| --             | -- | -- | --  | --  | -- | -- | --                 | --  | -- | -- | --  | --                 | --  | -- | -- | --         | --  | 28 | -- |
| --             | -- | -- | --  | --  | -- | -- | --                 | 16  | -- | -- | --  | 4                  | --  | -- | -- | --         | --  | -- | -- |
| --             | -- | -- | --  | --  | -- | -- | --                 | --  | -- | 21 | 14  | --                 | --  | -- | -- | --         | 107 | 4  | 7  |
| --             | -- | -- | --  | 52  | -- | -- | --                 | --  | -- | -- | --  | --                 | --  | -- | -- | --         | --  | -- | -- |
| --             | -- | -- | 54  | --  | -- | -- | --                 | --  | -- | -- | --  | --                 | --  | -- | -- | --         | --  | -- | -- |
| --             | -- | -- | --  | --  | -- | -- | --                 | --  | 15 | -- | --  | --                 | 33  | -- | -- | --         | --  | -- | -- |
| --             | -- | -- | --  | --  | -- | -- | --                 | --  | -- | -- | 155 | --                 | --  | -- | -- | 30         | 66  | -- | -- |
| --             | -- | -- | --  | --  | -- | -- | --                 | --  | -- | -- | --  | --                 | --  | -- | -- | --         | 34  | -- | -- |
| --             | -- | -- | --  | --  | -- | -- | --                 | 20  | -- | -- | --  | --                 | --  | -- | -- | --         | --  | -- | -- |
| --             | 15 | -- | --  | --  | -- | -- | --                 | --  | -- | -- | --  | --                 | --  | -- | -- | --         | --  | -- | -- |
| --             | -- | -- | --  | --  | -- | 5  | --                 | --  | -- | -- | --  | --                 | --  | -- | -- | --         | --  | -- | -- |
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| --             | -- | -- | 480 | 80  | -- | -- | --                 | --  | -- | -- | --  | --                 | --  | -- | 13 | --         | --  | -- | -- |
| --             | 21 | -- | --  | --  | -- | -- | --                 | --  | -- | -- | --  | --                 | --  | -- | -- | --         | --  | -- | -- |
| --             | -- | -- | --  | --  | -- | -- | 55                 | --  | -- | -- | --  | --                 | --  | -- | -- | --         | --  | -- | -- |
| --             | -- | -- | --  | --  | -- | -- | 8                  | --  | -- | -- | --  | 1                  | --  | -- | -- | --         | --  | -- | -- |
| --             | -- | -- | 51  | 5   | -- | -- | --                 | --  | -- | -- | --  | 14                 | 165 | 7  | 20 | --         | --  | -- | -- |
| --             | -- | -- | --  | --  | -- | -- | --                 | --  | -- | -- | --  | --                 | --  | -- | -- | --         | --  | -- | -- |
| --             | -- | -- | --  | --  | -- | -- | 1                  | 169 | -- | -- | --  | 4                  | 2   | -- | -- | --         | --  | 9  | -- |
| --             | -- | -- | --  | --  | -- | -- | --                 | 5   | 76 | -- | --  | --                 | --  | -- | -- | --         | --  | -- | -- |
| --             | -- | -- | --  | --  | -- | -- | --                 | 18  | 25 | -- | --  | --                 | --  | -- | -- | --         | --  | -- | -- |





# Convenience Store Outlets

| Company                           | Number of Stores | Number of States Where Stores Are Located | New England |    |    |    |    |    | Middle Atlantic |    |    |    |    |
|-----------------------------------|------------------|-------------------------------------------|-------------|----|----|----|----|----|-----------------|----|----|----|----|
|                                   |                  |                                           | ME          | NH | VT | MA | RI | CT | NY              | NJ | PA | DE | MD |
| Maverick Markets, Inc.            | 110              | 1                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Maverik Mini Marts                | 23               | 1                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Maverik Country Stores, Inc.      | 112              | 8                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| May-Slade Oil Co.                 | 7                | 1                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| McDowell Oil Service, Inc.        | 28               | 1                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| McGuire Food Marts, Inc.          | 18               | 1                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| McLeiser Oil Service, Inc.        | 3                | 1                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Mercer's Kwik Stop Food Stores    | 60               | 2                                         | —           | —  | 1  | —  | —  | —  | 59              | —  | —  | —  | —  |
| Merritt Truax, Inc.               | 5                | 1                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Metzger Dairies, Inc. (Mr. M)     | 47               | 1                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Mickey's Enterprises, Inc.        | 16               | 1                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Mid-Continent Systems, Inc.       | 26               | 2                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Mid-Missouri Oil Co.              | 6                | 1                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Mid South Sales, Inc.             | 14               | 1                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Midstate Oil Co.                  | 64               | 1                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Mid-States Petroleum              | 39               | 3                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Mid-West Petroleum Inc.           | 45               | 3                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Midwest Industrial Fuels          | 30               | 2                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Midwest Petroleum Co.             | 56               | 2                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Miller & Holmes, Inc.             | 24               | 6                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Miller Enterprises Inc.           | 128              | 1                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Miller Oil Co.                    | 41               | 2                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Mini Mart Inc.                    | 117              | 6                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Mini Marts                        | 30               | 1                                         | —           | —  | —  | —  | —  | —  | —               | —  | 30 | —  | —  |
| Minit Mart Foods, Inc.            | 98               | 2                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Minit Mart, L.P.                  | 50               | 2                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Minit Stop, Inc.                  | 10               | 1                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Mobil Corp.                       | 1,167            | 19                                        | 8           | 15 | 2  | 58 | 9  | 36 | 118             | 45 | 37 | —  | 16 |
| Modern Oil Co., Inc.              | 26               | 1                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Mooney Oil Corp.                  | 19               | 1                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Moore Petroleum                   | 3                | 1                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Mountain Empire Oil Co.           | 32               | 3                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Moyle Petroleum Co.               | 30               | 1                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Mr. Zip Convenience Stores, Inc.  | 50               | 3                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Munro Petroleum & Terminal Corp.  | 11               | 1                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Murphy Oil USA, Inc.              | 156              | 12                                        | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Musket Corp.                      | 127              | 6                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| National Convenience Stores, Inc. | 989              | 3                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| National Oil & Gas, Inc.          | 40               | 2                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Neal, Inc.                        | 24               | 1                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Nella Oil Co.                     | 24               | 2                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Nelson's Oil & Gas, Inc.          | 7                | 3                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Nice N Easy Grocery Shoppes, Inc. | 85               | 1                                         | —           | —  | —  | —  | —  | —  | 85              | —  | —  | —  | —  |
| Northville Industries Corp.       | 6                | 1                                         | —           | —  | —  | —  | —  | —  | 6               | —  | —  | —  | —  |
| Nugget Oil, Inc.                  | 46               | 1                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Omega Oil Co.                     | 58               | 2                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Open Pantry Food Marts            | 59               | 2                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Orloski's Service Stations, Inc.  | 34               | 1                                         | —           | —  | —  | —  | —  | —  | —               | —  | 34 | —  | —  |
| Otto Energy, Inc.                 | 6                | 1                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Pacific Petroleum Corp.           | 4                | 1                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Pack & Sack Food Centers, Inc.    | 46               | 2                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| The Pantry Inc.                   | 448              | 4                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| The Pantry Store Inc.             | 28               | 2                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Parker Oil Co., Inc.              | 30               | 2                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Parman Oil Co.                    | 19               | 1                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Patterson Oil Co., Inc.           | 9                | 1                                         | —           | —  | —  | —  | —  | 9  | —               | —  | —  | —  | —  |
| Pay Less Oil Co.                  | 21               | 1                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Pay N Save Inc.                   | 14               | 2                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| PDQ Food Stores, Inc.             | 87               | 4                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Petroleum Marketers, Inc.         | 50               | 2                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Petroleum Marketing Co.           | 97               | 6                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Petroleum Sales & Service         | 4                | 1                                         | —           | —  | —  | —  | —  | —  | 4               | —  | —  | —  | —  |
| Petroleum World, Inc.             | 34               | 2                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Phillips 66 Co.                   | 213              | N/A                                       | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Piasa Motor Fuels, Inc.           | 8                | 2                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Pick Kwik Food Stores, Inc.       | 89               | 1                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Pilot Corp.                       | 88               | 22                                        | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Pipeline Oil Sales                | 30               | 1                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Plaid Pantries, Inc.              | 105              | 2                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Poole Oil Co.                     | 5                | 2                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Presta Oil Inc.                   | 19               | 1                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Presto Food Stores, Inc.          | 63               | 1                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Purity Oil Co.                    | 13               | 1                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
| Q-Mart Food Stores of America     | 19               | 1                                         | —           | —  | —  | —  | —  | —  | —               | —  | —  | —  | —  |
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| —  | 182 | 144 | —   | 45 | —  | —  | —  | 24 | —  | —   | —  | 67 | —  | 1   | —  | —  | —  | —  | —  |
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# Convenience Store Outlets

| Company                                | Number of Stores | Number of States Where Stores Are Located | New England |    |    |    |    |    | Middle Atlantic |     |     |    |     |
|----------------------------------------|------------------|-------------------------------------------|-------------|----|----|----|----|----|-----------------|-----|-----|----|-----|
|                                        |                  |                                           | ME          | NH | VT | MA | RI | CT | NY              | NJ  | PA  | DE | MD  |
| Quarles Petroleum                      | 15               | 1                                         | —           | —  | —  | —  | —  | —  | —               | —   | —   | —  | —   |
| Quality Oil Co. Inc., Ltd. Partnership | 28               | 2                                         | —           | —  | —  | —  | —  | —  | —               | —   | —   | —  | —   |
| Quality Petroleum Corp.                | 50               | 2                                         | —           | —  | —  | —  | —  | —  | —               | —   | —   | —  | —   |
| Quick Chek Food Stores, Inc.           | 95               | 1                                         | —           | —  | —  | —  | —  | —  | 95              | —   | —   | —  | —   |
| Quick 'N Easy Stores, Inc.             | 18               | 1                                         | —           | —  | —  | —  | —  | —  | —               | —   | —   | —  | —   |
| Quick-Sav Food Stores                  | 29               | 1                                         | —           | —  | —  | —  | —  | —  | —               | —   | —   | —  | —   |
| Quick Stop Food Mart, Inc.             | 80               | 2                                         | —           | —  | —  | —  | —  | —  | —               | —   | —   | —  | —   |
| Quik Mart Stores                       | 4                | 1                                         | —           | —  | —  | —  | —  | —  | —               | —   | —   | —  | —   |
| Quik Mart Stores, Inc.                 | 24               | 1                                         | —           | —  | —  | —  | —  | —  | —               | —   | —   | —  | —   |
| Quik Thrift Food Stores, Inc.          | 14               | 1                                         | —           | —  | —  | —  | —  | —  | —               | —   | —   | —  | —   |
| QuikTrip Corp.                         | 284              | 6                                         | —           | —  | —  | —  | —  | —  | —               | —   | —   | —  | —   |
| Qwik Korner Deli-Grocery, Inc.         | 7                | 1                                         | —           | —  | —  | —  | —  | —  | —               | —   | —   | —  | —   |
| Qwik Stop                              | 3                | 1                                         | —           | —  | —  | —  | —  | —  | —               | —   | —   | —  | —   |
| Racetrac Petroleum                     | 259              | 12                                        | —           | —  | —  | —  | —  | —  | —               | —   | —   | —  | —   |
| Rainbo Oil Co.                         | 37               | 1                                         | —           | —  | —  | —  | —  | —  | —               | —   | —   | —  | —   |
| Ram Oil Co.                            | 13               | 1                                         | —           | —  | —  | —  | —  | —  | —               | —   | —   | —  | —   |
| Red Hed Oil Co., Inc.                  | 8                | 1                                         | —           | —  | —  | —  | —  | —  | —               | —   | —   | —  | —   |
| Red Rock Distributing                  | 19               | 1                                         | —           | —  | —  | —  | —  | —  | —               | —   | —   | —  | —   |
| Retail Marketing Co.                   | 97               | 6                                         | —           | —  | —  | —  | —  | —  | —               | —   | —   | —  | —   |
| Rinehart Oil Inc.                      | 6                | 1                                         | —           | —  | —  | —  | —  | —  | —               | —   | —   | —  | —   |
| River Oil Co.                          | 3                | 1                                         | —           | —  | —  | —  | —  | —  | —               | —   | —   | —  | —   |
| F.L. Roberts                           | 24               | 2                                         | —           | —  | —  | X  | —  | X  | —               | —   | —   | —  | —   |
| Robinson Oil Co.                       | 8                | 1                                         | —           | —  | —  | —  | —  | —  | —               | —   | —   | —  | —   |
| Rocky Top Markets, Inc.                | 25               | 1                                         | —           | —  | —  | —  | —  | —  | —               | —   | —   | —  | —   |
| Russ Day N Nite Markets                | 14               | 1                                         | —           | —  | —  | —  | —  | —  | —               | —   | —   | —  | —   |
| Russel Petroleum Corp.                 | 17               | 1                                         | —           | —  | —  | —  | —  | —  | —               | —   | —   | —  | —   |
| Sac N Pac Stores                       | 20               | 1                                         | —           | —  | —  | —  | —  | —  | —               | —   | —   | —  | —   |
| Sahara Oil Co., Inc.                   | 8                | 1                                         | —           | —  | —  | —  | —  | —  | —               | —   | —   | —  | —   |
| Santee Oil Co., Inc.                   | 4                | 1                                         | —           | —  | —  | —  | —  | —  | —               | —   | —   | —  | —   |
| Satco                                  | 21               | 1                                         | —           | —  | —  | —  | —  | —  | —               | —   | —   | —  | —   |
| Sav A Step Food Marts                  | 26               | 2                                         | —           | —  | —  | —  | —  | —  | —               | —   | —   | —  | —   |
| Sav-A-Stop, Inc.                       | 19               | 1                                         | —           | —  | —  | —  | —  | —  | —               | —   | —   | —  | —   |
| Sav-A-Trip, Inc.                       | 19               | 2                                         | —           | —  | —  | —  | —  | —  | —               | —   | —   | —  | —   |
| Save-X USA, Inc.                       | 10               | 1                                         | —           | —  | —  | —  | —  | —  | —               | —   | —   | —  | —   |
| Savings Station Dodges Store           | 60               | 10                                        | —           | —  | —  | —  | —  | —  | —               | —   | —   | —  | —   |
| SBR, Inc.                              | 63               | 2                                         | 23          | —  | —  | —  | —  | —  | —               | —   | —   | —  | —   |
| Scaff's Inc.                           | 35               | 1                                         | —           | —  | —  | —  | —  | —  | —               | —   | —   | —  | —   |
| SCASCO                                 | 10               | 1                                         | —           | —  | —  | —  | —  | 10 | —               | —   | —   | —  | —   |
| Schaeffer Oil Inc.                     | 6                | 2                                         | —           | —  | —  | —  | —  | —  | —               | —   | —   | —  | —   |
| Schierl Sales Corp.                    | 23               | 2                                         | —           | —  | —  | —  | —  | —  | —               | —   | —   | —  | —   |
| Schmuckal Oil Co.                      | 18               | 1                                         | —           | —  | —  | —  | —  | —  | —               | —   | —   | —  | —   |
| Carl M. Schultz Inc.                   | 24               | 1                                         | —           | —  | —  | —  | —  | —  | —               | —   | —   | —  | —   |
| Sears Oil Co., Inc.                    | 10               | 1                                         | —           | —  | —  | —  | —  | —  | 10              | —   | —   | —  | —   |
| Sessoms Properties                     | 12               | 1                                         | —           | —  | —  | —  | —  | —  | —               | —   | —   | —  | —   |
| Shay Oil Co., Inc.                     | 11               | 1                                         | —           | —  | —  | —  | —  | —  | —               | —   | —   | —  | —   |
| Sheetz, Inc.                           | 160              | 4                                         | —           | —  | —  | —  | —  | —  | —               | —   | 124 | —  | 21  |
| Sheffield Oil Co.                      | 24               | 3                                         | —           | —  | —  | —  | —  | —  | —               | —   | —   | —  | —   |
| Shell Oil Co.                          | 1,300            | 41                                        | —           | X  | —  | X  | X  | X  | X               | X   | X   | X  | X   |
| Shipley Oil Co.                        | 20-25            | 1                                         | —           | —  | —  | —  | —  | —  | —               | —   | X   | —  | —   |
| Shircliff Oil Co.                      | 2                | 1                                         | —           | —  | —  | —  | —  | —  | —               | —   | —   | —  | —   |
| Shop A Snak Food Marts, Inc.           | 22               | 1                                         | —           | —  | —  | —  | —  | —  | —               | —   | —   | —  | —   |
| Shop Rite, Inc.                        | 42               | 1                                         | —           | —  | —  | —  | —  | —  | —               | —   | —   | —  | —   |
| Short Stop Food Marts                  | 62               | 1                                         | —           | —  | —  | —  | —  | —  | —               | —   | —   | —  | —   |
| SICO                                   | 8                | 2                                         | —           | —  | —  | —  | —  | —  | —               | —   | 7   | 1  | —   |
| Silcorp Ltd.                           | 999*             | 1                                         | —           | —  | —  | —  | —  | —  | —               | —   | —   | —  | —   |
| Sinclair Oil Corp.                     | 300              | 14                                        | —           | —  | —  | —  | —  | —  | —               | —   | —   | —  | —   |
| Sing Oil Co.**                         | 56               | ?                                         | —           | —  | —  | —  | —  | —  | —               | —   | —   | —  | —   |
| Site Oil Co.                           | 50               | 8                                         | —           | —  | —  | —  | —  | —  | —               | —   | —   | —  | —   |
| 6-Twelve Convenience Mart Inc.         | 27               | 2                                         | —           | —  | —  | —  | —  | —  | —               | —   | —   | —  | 21  |
| Skinny's, Inc.                         | 49               | 1                                         | —           | —  | —  | —  | —  | —  | —               | —   | —   | —  | —   |
| R.L. Smeltz Oil Co., Inc.              | 10               | 1                                         | —           | —  | —  | —  | —  | —  | —               | —   | —   | 10 | —   |
| Southern Counties Oil Co.              | 5                | 1                                         | —           | —  | —  | —  | —  | —  | —               | —   | —   | —  | —   |
| Southern Food Park, Inc.               | 16               | 1                                         | —           | —  | —  | —  | —  | —  | —               | —   | —   | —  | —   |
| Southern Oil Co., Inc.                 | 6                | 1                                         | —           | —  | —  | —  | —  | —  | —               | —   | —   | —  | —   |
| The Southland Corp.                    | 5,943            | 31                                        | —           | 8  | —  | 36 | 10 | 40 | 216             | 221 | 197 | 30 | 315 |
| Spectrum Stores, Inc.                  | 42               | 2                                         | —           | —  | —  | —  | —  | —  | —               | —   | —   | —  | —   |
| The Spencer Co., Inc.                  | 33               | 1                                         | —           | —  | —  | —  | —  | —  | —               | —   | —   | —  | —   |
| Spies Corp.                            | 1                | 1                                         | —           | —  | —  | —  | —  | —  | —               | —   | —   | —  | —   |
| Stallings Oil Co.                      | 41               | 2                                         | —           | —  | —  | —  | —  | —  | —               | —   | —   | —  | —   |
| Star Development Holding               | 30               | 1                                         | —           | —  | —  | —  | —  | —  | —               | —   | —   | —  | —   |
| Star Enterprises                       | 5,397            | 26                                        | 32          | 25 | 15 | 67 | 28 | 80 | 50              | 91  | 219 | 30 | 140 |
| Star Oil Co.                           | 4                | 1                                         | —           | —  | —  | —  | —  | —  | —               | —   | —   | —  | —   |
| Sterling Milk Co.                      | 28               | 2                                         | —           | —  | —  | —  | —  | —  | —               | —   | —   | —  | —   |

\* Includes 66 in U.S. and 933 in Canada.

\*\*Bought by Amoco in October 1990.

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| South Atlantic |     |     |     |     |     |    | East North Central |    |     |     |    | East South Central |     |     |     | West North |    |     |    |
|----------------|-----|-----|-----|-----|-----|----|--------------------|----|-----|-----|----|--------------------|-----|-----|-----|------------|----|-----|----|
| DC             | NC  | SC  | FL  | GA  | VA  | WV | OH                 | IN | IL  | MI  | WI | KY                 | TN  | AL  | MS  | MN         | IA | MO  | ND |
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| —              | —   | —   | —   | —   | —   | —  | —                  | —  | —   | —   | —  | —                  | 25  | —   | —   | —          | —  | —   | —  |
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| —              | —   | 4   | —   | —   | —   | —  | —                  | —  | —   | —   | —  | —                  | —   | —   | —   | —          | —  | —   | —  |
| —              | —   | —   | —   | —   | —   | —  | —                  | 9  | —   | —   | —  | 17                 | —   | —   | —   | —          | —  | —   | —  |
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| —              | X   | X   | X   | —   | X   | —  | —                  | —  | —   | —   | —  | X                  | X   | X   | X   | —          | —  | —   | —  |
| —              | —   | —   | —   | —   | —   | 40 | —                  | —  | —   | —   | —  | —                  | —   | —   | —   | —          | —  | —   | —  |
| —              | —   | —   | —   | —   | —   | —  | —                  | —  | 35  | —   | —  | —                  | —   | —   | —   | —          | —  | —   | —  |
| —              | —   | —   | —   | —   | —   | —  | —                  | —  | —   | —   | —  | —                  | —   | —   | —   | —          | —  | —   | —  |
| —              | —   | —   | —   | —   | —   | —  | —                  | —  | —   | 2   | 21 | —                  | —   | —   | —   | —          | —  | —   | —  |
| —              | —   | —   | —   | —   | —   | —  | —                  | —  | —   | 18  | —  | —                  | —   | —   | —   | —          | —  | —   | —  |
| —              | —   | —   | —   | —   | —   | —  | —                  | —  | —   | 24  | —  | —                  | —   | —   | —   | —          | —  | —   | —  |
| —              | 12  | —   | —   | —   | —   | —  | —                  | —  | —   | —   | —  | —                  | —   | —   | —   | —          | —  | —   | —  |
| —              | —   | —   | —   | —   | —   | —  | —                  | —  | —   | —   | —  | —                  | —   | —   | —   | —          | —  | —   | —  |
| —              | —   | —   | 8   | 1   | —   | 1  | 14                 | —  | —   | —   | —  | —                  | —   | 15  | —   | —          | —  | —   | —  |
| X              | X   | X   | X   | X   | X   | X  | X                  | X  | X   | X   | X  | X                  | X   | X   | X   | —          | X  | X   | —  |
| —              | —   | —   | —   | —   | —   | —  | —                  | —  | —   | —   | —  | —                  | —   | —   | —   | —          | —  | —   | —  |
| —              | —   | —   | —   | —   | —   | —  | —                  | —  | —   | —   | —  | —                  | —   | 22  | —   | —          | —  | —   | —  |
| —              | 62  | —   | —   | —   | —   | —  | —                  | —  | —   | —   | —  | —                  | —   | —   | —   | —          | —  | —   | —  |
| —              | —   | —   | —   | —   | —   | —  | —                  | —  | —   | 66  | —  | —                  | —   | —   | —   | —          | —  | —   | —  |
| —              | —   | —   | X   | X   | —   | —  | —                  | —  | —   | —   | —  | —                  | —   | 1   | 7   | X          | X  | X   | X  |
| —              | —   | —   | —   | —   | 6   | —  | —                  | —  | —   | —   | —  | —                  | —   | —   | —   | —          | —  | —   | —  |
| —              | —   | —   | —   | —   | —   | —  | —                  | —  | —   | —   | —  | —                  | —   | —   | —   | —          | —  | —   | —  |
| —              | —   | —   | —   | —   | —   | —  | —                  | —  | 16  | —   | —  | —                  | —   | —   | —   | —          | —  | —   | —  |
| 25             | 8   | —   | 579 | —   | 6   | 22 | 21                 | 18 | 188 | 103 | —  | —                  | —   | —   | —   | —          | —  | 125 | —  |
| —              | —   | —   | —   | 16  | 661 | —  | —                  | —  | —   | —   | —  | —                  | —   | 26  | —   | —          | —  | —   | —  |
| —              | —   | —   | —   | —   | —   | —  | —                  | —  | —   | —   | —  | —                  | —   | 33  | —   | —          | —  | —   | —  |
| —              | 33  | —   | —   | —   | 8   | —  | —                  | —  | —   | —   | —  | —                  | —   | —   | —   | —          | —  | —   | —  |
| 13             | 417 | 356 | 30  | 509 | 224 | 1  | —                  | —  | —   | —   | —  | 20                 | 459 | 309 | 199 | —          | —  | —   | —  |
| —              | —   | —   | 484 | —   | —   | —  | 27                 | —  | —   | 4   | —  | —                  | —   | —   | —   | —          | —  | —   | —  |
| —              | —   | —   | —   | —   | —   | —  | —                  | —  | —   | 1   | —  | —                  | —   | —   | —   | —          | —  | —   | —  |





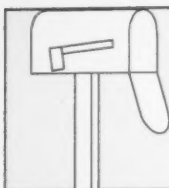
# Convenience Store Outlets

| Company                                    | Number of Stores | Number of States Where Stores Are Located | New England |    |    |    |    |    | Middle Atlantic |    |     |    |    |
|--------------------------------------------|------------------|-------------------------------------------|-------------|----|----|----|----|----|-----------------|----|-----|----|----|
|                                            |                  |                                           | ME          | NH | VT | MA | RI | CT | NY              | NJ | PA  | DE | MD |
| Steuart Petroleum Co.                      | 63               | 7                                         | —           | —  | —  | —  | —  | —  | —               | —  | —   | —  | ?  |
| Stewart Oil Co. Tri-Star Marketing         | 39               | 2                                         | —           | —  | —  | —  | —  | —  | —               | —  | —   | —  | —  |
| Stewarts Ice Cream                         | 181              | 2                                         | —           | —  | 7  | —  | —  | —  | 174             | —  | —   | —  | —  |
| Stop In Food Stores, Inc.                  | 51               | 2                                         | —           | —  | —  | —  | —  | —  | —               | —  | —   | —  | —  |
| Stop-N-Go of Madison, Inc.                 | 47               | 2                                         | —           | —  | —  | —  | —  | —  | —               | —  | —   | —  | —  |
| The Store 24, Inc.                         | 109              | 5                                         | —           | X  | —  | X  | X  | X  | X               | —  | —   | —  | —  |
| Strassburger Enterprises                   | 29               | 1                                         | —           | —  | —  | —  | —  | —  | —               | —  | —   | —  | —  |
| Sugar Creek Stores                         | 103              | 1                                         | —           | —  | —  | —  | —  | —  | 103             | —  | —   | —  | —  |
| Sunglo Service, Inc.                       | 24               | 1                                         | —           | —  | —  | —  | —  | —  | —               | —  | —   | —  | —  |
| Sun Refining & Marketing Co.               | 1,727            | 27                                        | 11          | 23 | 9  | 79 | 25 | 72 | 285             | —  | 297 | 6  | 5  |
| Sunny Side Farms                           | 10               | 1                                         | —           | —  | —  | —  | —  | 10 | —               | —  | —   | —  | —  |
| Sunshine Jr. Stores, Inc.                  | 296              | 5                                         | —           | —  | —  | —  | —  | —  | —               | —  | —   | —  | —  |
| Suwannee Swifty Stores                     | 212              | 3                                         | —           | —  | —  | —  | —  | —  | —               | —  | —   | —  | —  |
| Sweeney Co., Inc.                          | 6                | 1                                         | —           | —  | —  | —  | —  | —  | —               | —  | —   | —  | —  |
| T & E Oil Co.                              | 9                | 1                                         | —           | —  | —  | —  | —  | —  | —               | —  | —   | —  | —  |
| Target Capital Div.                        | 20               | 2                                         | —           | —  | —  | —  | —  | —  | —               | —  | —   | —  | —  |
| Tattnal Foods, Inc.                        | 26               | 1                                         | —           | —  | —  | —  | —  | —  | —               | —  | —   | —  | —  |
| Taylor Food Marts                          | 112              | 5                                         | —           | —  | —  | —  | —  | —  | —               | —  | —   | —  | —  |
| Taylor Oil Co.                             | 60               | 2                                         | —           | —  | —  | —  | —  | —  | —               | —  | —   | —  | —  |
| Tedeschi's Food Stores                     | 64               | 2                                         | —           | —  | —  | 62 | 2  | —  | —               | —  | —   | —  | —  |
| Tesoro Petroleum Corp.                     | 39               | 1                                         | —           | —  | —  | —  | —  | —  | —               | —  | —   | —  | —  |
| Texaco                                     | 471              | 14                                        | —           | —  | —  | —  | —  | —  | —               | —  | —   | —  | —  |
| TFM Co.                                    | 19               | 3                                         | —           | —  | —  | —  | —  | —  | —               | —  | —   | —  | —  |
| Thomas Oil Co.                             | 5                | 1                                         | —           | —  | —  | —  | —  | —  | —               | —  | —   | —  | —  |
| Thornhill Oil Co., Inc.                    | 16               | 1                                         | —           | —  | —  | —  | —  | —  | —               | —  | —   | —  | —  |
| Thornton Oil Corp.                         | 106              | 6                                         | —           | —  | —  | —  | —  | 4  | —               | —  | —   | —  | —  |
| Thrifty Oil Co.                            | 151              | 1                                         | —           | —  | —  | —  | —  | —  | —               | —  | —   | —  | —  |
| Thriftway Marketing Corp.                  | 71               | 4                                         | —           | —  | —  | —  | —  | —  | —               | —  | —   | —  | —  |
| Time Oil Co.                               | 169              | 5                                         | —           | —  | —  | —  | —  | —  | —               | —  | —   | —  | —  |
| Time Saver Stores, Inc.                    | 133              | 1                                         | —           | —  | —  | —  | —  | —  | —               | —  | —   | —  | —  |
| TOC Retail Inc. dba Majik Market Mgmt.     | 389              | 11                                        | —           | —  | —  | —  | —  | —  | —               | —  | —   | —  | —  |
| Tom Thumb Food Markets, Inc.               | 104              | 2                                         | —           | —  | —  | —  | —  | —  | —               | —  | —   | —  | —  |
| Tooley Oil Co.                             | 6                | 1                                         | —           | —  | —  | —  | —  | —  | —               | —  | —   | —  | —  |
| Total Petroleum                            | 627              | 18                                        | —           | —  | —  | —  | —  | —  | —               | —  | —   | —  | —  |
| Town & Country Food Marts                  | 66               | 4                                         | —           | —  | —  | —  | —  | —  | —               | —  | —   | —  | —  |
| Town & Country Food Stores                 | 31               | 1                                         | —           | —  | —  | —  | —  | —  | —               | —  | —   | —  | —  |
| Town Pump                                  | 61               | 1                                         | —           | —  | —  | —  | —  | —  | —               | —  | —   | —  | —  |
| Town Star Food Stores, Inc.                | 31               | 1                                         | —           | —  | —  | —  | —  | —  | —               | —  | —   | —  | —  |
| Trejo Oil Co.                              | 25               | 1                                         | —           | —  | —  | —  | —  | —  | —               | —  | —   | —  | —  |
| Tri-Valley Distributors, Inc.              | 40               | 6                                         | —           | —  | —  | —  | —  | —  | —               | —  | —   | —  | —  |
| Triton, Inc.                               | 21               | 3                                         | —           | —  | —  | —  | —  | —  | —               | —  | —   | —  | —  |
| Twin Lakes Petroleum Corp.                 | 7                | 1                                         | —           | —  | —  | —  | —  | —  | —               | —  | —   | —  | —  |
| Ultramar, Inc.                             | 202              | 2                                         | —           | —  | —  | —  | —  | —  | —               | —  | —   | —  | —  |
| Ultra Power Corp.                          | 4                | 1                                         | —           | —  | —  | —  | —  | —  | 4               | —  | —   | —  | —  |
| Uni-Marts, Inc.                            | 340              | 5                                         | —           | —  | —  | —  | —  | —  | 26              | 12 | 296 | 5  | 1  |
| United Dairy Farmers                       | 214              | 3                                         | —           | —  | —  | —  | —  | —  | —               | —  | —   | —  | —  |
| United Refining Co. of PA                  | 193              | 3                                         | —           | —  | —  | —  | —  | —  | —               | 43 | 148 | —  | —  |
| UNOCAL                                     | 2,188            | 13                                        | —           | —  | —  | —  | —  | —  | —               | —  | —   | —  | —  |
| U.S.A. Petroleum                           | 29               | 5                                         | —           | —  | —  | —  | —  | —  | —               | —  | —   | —  | —  |
| Venta                                      | 44               | 4                                         | —           | —  | —  | —  | —  | —  | —               | —  | —   | —  | —  |
| Verona Oil Co., Inc.                       | 24               | 1                                         | —           | —  | —  | —  | —  | —  | 24              | —  | —   | —  | —  |
| Vista Marketing Group, Ltd.                | 6                | 2                                         | —           | —  | —  | —  | —  | —  | —               | —  | —   | —  | —  |
| Waco Oil Co.                               | 13               | 2                                         | —           | —  | —  | —  | —  | —  | —               | —  | —   | —  | —  |
| Wades Foods, Inc.                          | 21               | 1                                         | —           | —  | —  | —  | —  | —  | —               | —  | —   | —  | —  |
| Wake Up Oil Co., Inc.                      | 5                | 1                                         | —           | —  | —  | —  | —  | —  | —               | —  | —   | —  | —  |
| Walters Dimmick Petroleum                  | 37               | 3                                         | —           | —  | —  | —  | —  | —  | —               | —  | —   | —  | —  |
| Warelubco, Inc.                            | 67               | 5                                         | —           | —  | —  | —  | —  | —  | —               | —  | —   | —  | —  |
| Warren Equities, Inc.                      | 127              | 7                                         | 10          | 8  | —  | 29 | 21 | 32 | 24              | —  | 3   | —  | —  |
| Warring Oil Co.                            | 27               | 2                                         | —           | —  | —  | —  | —  | —  | —               | —  | —   | —  | —  |
| Wawa, Inc.                                 | 485              | 5                                         | —           | —  | —  | —  | —  | X  | —               | X  | X   | X  | X  |
| Webster Oil Co.                            | 4                | 1                                         | —           | —  | —  | —  | —  | —  | —               | —  | —   | —  | —  |
| Weigels Farm Stores                        | 38               | 1                                         | —           | —  | —  | —  | —  | —  | —               | —  | —   | —  | —  |
| Welsh Oil Co.                              | 21               | 2                                         | —           | —  | —  | —  | —  | —  | —               | —  | —   | —  | —  |
| West Lynn Creamery                         | 50               | 2                                         | —           | 6  | —  | 44 | —  | —  | —               | —  | —   | —  | —  |
| West Star Corp.                            | 9                | 1                                         | —           | —  | —  | —  | —  | —  | —               | —  | —   | —  | —  |
| West Texas Gas Inc.                        | 17               | 1                                         | —           | —  | —  | —  | —  | —  | —               | —  | —   | —  | —  |
| Western Energetics                         | 20               | 1                                         | —           | —  | —  | —  | —  | —  | —               | —  | —   | —  | —  |
| Western Marketing, Inc.                    | 15               | 2                                         | —           | —  | —  | —  | —  | —  | —               | —  | —   | —  | —  |
| Westgate Oil Co.                           | 30               | 1                                         | —           | —  | —  | —  | —  | —  | —               | —  | —   | —  | —  |
| A.T. Williams Oil Co.                      | 100              | 2                                         | —           | —  | —  | —  | —  | —  | —               | —  | —   | —  | —  |
| J.H. Williams Oil Co., Inc.                | 6                | 1                                         | —           | —  | —  | —  | —  | —  | —               | —  | —   | —  | —  |
| Williamson Oil Co.                         | 85               | 3                                         | —           | —  | —  | —  | —  | —  | —               | —  | —   | —  | —  |
| The Willis Group, Inc./Dash In Food Stores | 44               | 3                                         | —           | —  | —  | —  | —  | —  | —               | —  | —   | 1  | 31 |
| Wind River Petroleum                       | 25               | 1                                         | —           | —  | —  | —  | —  | —  | —               | —  | —   | —  | —  |
| Wooten Oil Co.                             | 20               | 1                                         | —           | —  | —  | —  | —  | —  | —               | —  | —   | —  | —  |

# in the United States

| South Atlantic |     |     |     |     |    |    | East North Central |    |    |     |    | East South Central |     |     |     | West North |    |    |    |
|----------------|-----|-----|-----|-----|----|----|--------------------|----|----|-----|----|--------------------|-----|-----|-----|------------|----|----|----|
| DC             | NC  | SC  | FL  | GA  | VA | WV | OH                 | IN | IL | MI  | WI | KY                 | TN  | AL  | MS  | MN         | IA | MO | ND |
| —              | X   | X   | X   | X   | X  | X  | —                  | X  | X  | —   | —  | —                  | —   | —   | —   | —          | —  | —  | —  |
| —              | —   | —   | —   | —   | 47 | 4  | —                  | —  | 15 | —   | 32 | —                  | —   | —   | —   | —          | —  | —  | —  |
| —              | —   | —   | —   | —   | —  | —  | —                  | —  | —  | —   | —  | —                  | —   | —   | —   | —          | —  | —  | —  |
| —              | —   | —   | —   | —   | —  | —  | —                  | —  | —  | —   | —  | —                  | —   | —   | —   | —          | —  | —  | —  |
| —              | —   | —   | —   | —   | —  | —  | —                  | —  | —  | —   | —  | —                  | —   | —   | —   | —          | —  | —  | —  |
| —              | —   | —   | —   | —   | —  | —  | —                  | —  | —  | —   | —  | —                  | —   | —   | —   | —          | —  | —  | —  |
| 2              | 40  | 3   | —   | —   | 4  | 31 | 163                | 57 | 74 | 140 | 2  | 24                 | —   | —   | —   | —          | 59 | 44 | —  |
| —              | —   | —   | 158 | 18  | —  | —  | —                  | —  | —  | —   | —  | —                  | —   | 81  | 35  | —          | —  | —  | —  |
| —              | —   | —   | 100 | 117 | —  | —  | —                  | —  | 6  | —   | —  | —                  | —   | 5   | —   | —          | —  | —  | —  |
| —              | —   | —   | —   | —   | —  | —  | —                  | —  | —  | —   | —  | —                  | —   | —   | —   | —          | —  | —  | —  |
| —              | —   | —   | —   | 26  | —  | —  | —                  | —  | —  | —   | —  | —                  | —   | —   | —   | —          | —  | —  | —  |
| —              | 50  | —   | —   | —   | 10 | —  | —                  | —  | —  | —   | —  | —                  | —   | —   | X   | —          | —  | —  | —  |
| —              | —   | —   | —   | —   | —  | —  | —                  | —  | —  | —   | —  | —                  | —   | —   | —   | —          | —  | —  | —  |
| —              | —   | —   | —   | —   | —  | —  | —                  | —  | —  | —   | —  | —                  | —   | —   | —   | —          | —  | —  | —  |
| —              | —   | —   | —   | —   | —  | —  | —                  | —  | 6  | —   | 2  | —                  | —   | —   | —   | —          | —  | 55 | —  |
| —              | —   | —   | —   | —   | —  | —  | —                  | —  | —  | —   | —  | —                  | —   | —   | —   | —          | —  | —  | —  |
| —              | —   | —   | —   | —   | —  | —  | 13                 | 16 | 19 | —   | —  | 47                 | —   | —   | —   | —          | —  | —  | —  |
| —              | —   | —   | —   | —   | —  | —  | —                  | —  | —  | —   | —  | —                  | —   | —   | —   | —          | —  | —  | —  |
| —              | —   | —   | —   | —   | —  | —  | —                  | —  | —  | —   | —  | —                  | —   | —   | —   | —          | —  | —  | —  |
| —              | 22  | 50  | 95  | 93  | 2  | 1  | —                  | —  | —  | —   | —  | 8                  | 33  | 26  | 23  | —          | —  | —  | —  |
| —              | —   | —   | 92  | —   | —  | —  | —                  | —  | —  | —   | —  | —                  | —   | 12  | —   | —          | —  | —  | —  |
| —              | —   | —   | —   | —   | —  | —  | —                  | —  | 1  | 169 | 22 | 1                  | 19  | —   | 2   | 39         | 21 | 58 | —  |
| —              | —   | —   | —   | —   | —  | —  | —                  | —  | —  | —   | —  | —                  | —   | —   | —   | —          | —  | 9  | —  |
| —              | —   | —   | 31  | —   | —  | —  | —                  | —  | —  | —   | —  | —                  | —   | —   | —   | —          | —  | —  | —  |
| —              | —   | —   | 31  | —   | —  | —  | —                  | —  | —  | —   | —  | —                  | —   | —   | —   | —          | —  | —  | —  |
| —              | —   | —   | —   | —   | —  | —  | —                  | —  | —  | —   | —  | —                  | —   | —   | —   | —          | —  | —  | —  |
| —              | 5   | —   | 5   | 11  | —  | —  | —                  | —  | —  | —   | —  | —                  | —   | —   | —   | —          | —  | —  | —  |
| —              | —   | —   | —   | —   | —  | —  | —                  | —  | —  | —   | —  | —                  | —   | —   | —   | —          | —  | —  | —  |
| —              | —   | —   | —   | —   | —  | —  | —                  | —  | —  | —   | —  | —                  | —   | —   | —   | —          | —  | —  | —  |
| —              | —   | —   | —   | —   | —  | —  | 207                | 1  | —  | —   | —  | 6                  | —   | —   | —   | —          | —  | —  | —  |
| —              | —   | —   | —   | —   | —  | —  | 2                  | —  | —  | —   | —  | —                  | —   | —   | —   | —          | —  | —  | —  |
| —              | 312 | 125 | 498 | 245 | 90 | 14 | —                  | —  | —  | —   | —  | —                  | 190 | 297 | 171 | —          | —  | 13 | —  |
| —              | —   | 1   | 2   | —   | —  | —  | —                  | —  | —  | 1   | —  | —                  | —   | —   | —   | —          | —  | —  | —  |
| —              | —   | —   | —   | —   | —  | —  | —                  | —  | 5  | —   | 1  | —                  | —   | —   | —   | —          | —  | —  | —  |
| —              | —   | —   | —   | —   | —  | —  | 2                  | —  | —  | —   | —  | 11                 | —   | —   | —   | —          | —  | —  | —  |
| —              | —   | —   | —   | —   | 21 | —  | —                  | —  | —  | —   | —  | —                  | —   | —   | —   | —          | —  | —  | —  |
| —              | —   | —   | —   | —   | —  | —  | —                  | 5  | —  | —   | —  | —                  | —   | —   | —   | —          | —  | —  | —  |
| —              | —   | —   | —   | —   | —  | —  | 3                  | 6  | —  | 28  | —  | —                  | —   | —   | —   | —          | —  | —  | —  |
| —              | —   | —   | 7   | —   | —  | —  | —                  | 1  | 48 | —   | —  | —                  | —   | —   | —   | —          | 10 | 1  | —  |
| —              | —   | —   | —   | —   | —  | —  | —                  | —  | —  | —   | —  | —                  | —   | —   | 22  | —          | —  | —  | —  |
| —              | —   | —   | —   | —   | —  | —  | —                  | —  | —  | —   | —  | —                  | —   | —   | —   | —          | —  | —  | —  |
| —              | —   | —   | —   | —   | —  | —  | —                  | —  | —  | —   | —  | —                  | —   | —   | —   | —          | —  | 4  | —  |
| —              | —   | —   | —   | —   | —  | —  | —                  | 12 | —  | 9   | —  | —                  | 38  | —   | —   | —          | —  | —  | —  |
| —              | —   | —   | —   | —   | —  | —  | —                  | —  | —  | —   | —  | —                  | —   | —   | —   | —          | —  | —  | —  |
| —              | —   | —   | —   | —   | —  | —  | —                  | —  | —  | —   | —  | —                  | —   | —   | —   | —          | —  | —  | —  |
| —              | —   | —   | —   | —   | —  | —  | —                  | —  | —  | 30  | —  | —                  | —   | —   | —   | —          | —  | —  | —  |
| —              | 60  | —   | —   | —   | 40 | —  | —                  | —  | —  | —   | —  | —                  | —   | —   | —   | —          | —  | —  | —  |
| —              | —   | —   | 6   | —   | —  | —  | —                  | —  | —  | —   | —  | —                  | —   | —   | —   | —          | —  | —  | —  |
| —              | —   | —   | —   | 10  | —  | —  | —                  | —  | —  | —   | —  | —                  | —   | —   | —   | —          | —  | —  | —  |
| —              | —   | —   | —   | —   | 12 | —  | —                  | —  | —  | —   | —  | —                  | —   | 5   | 70  | —          | —  | —  | —  |
| —              | —   | —   | —   | —   | —  | —  | —                  | —  | —  | —   | —  | —                  | —   | —   | —   | —          | —  | —  | —  |
| —              | 20  | —   | —   | —   | —  | —  | —                  | —  | —  | —   | —  | —                  | —   | —   | —   | —          | —  | —  | —  |





# Letters to the Editor



## Poetic License

My father recently discovered your publication, and he sent me clippings of your *NPN* logo. Enclosed is a photo of my North

Carolina license plate, which should be of some interest. I have used my initials on personalized plates in New York, Massachusetts and now here, too.

Until your publication, the most interesting response to my own *NPN* has come from

computer technicians. It seems that the contacts of transistors are usually labeled NPN, though PNP is also possible.

Thank you very much, and I appreciate the good taste shown by the graphics department.

Neil P. Nissenbaum  
Jacksonville, NC

## THE BIRTH OF A NEW GENERATION

The All New POS 4000 . . . the Car Wash Marketing System conceived in response to a new age in car wash merchandising. With the ability to accommodate multiple car washes at a single site, multiple points of sale, and pump control/cash register tie-in, the POS 4000 has the expansion capabilities to bring you comfortably into the world of convenience marketing.



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## Number Crunching

I received the 1991 *NPN Factbook* today and was pleased that Total Petroleum, Inc., was mentioned in several articles: "Twenty Companies Elevate Asset Values with Ten Hitting New Peaks" (p13), "Company Rankings by Marketers with Assets of \$1-Billion or More" (p26) and "Shell Retains Title as No. 1 'Gas' Marketer for Fifth Straight Year" (p138).

It was disturbing to discover that Total Petroleum's 1989 and 1990 figures reported for asset base (p13 and p16) were transposed and reflected a decline when assets rose from \$1.16-billion in 1989 to \$1.25-billion in 1990. In addition, Total Petroleum's fuel volume sales reported (p139) for 1990 were our 1989 sales and the change from 1989 reflected a 7.2% decline. I believe it is important to clarify the data for all readers of the *NPN Factbook*.

Listed below are the correct figures for Total Petroleum:

|                | 1989           | 1990           | % Chng. |
|----------------|----------------|----------------|---------|
| Assets         | \$1.16-Billion | \$1.25-Billion | +7.8%   |
| Volumes (gal.) |                |                |         |
| All Branded    |                |                |         |
| Locations      | 1,778,167,000  | 1,915,336,000  | +7.7    |

Our corrected share of the market for 1990 is 1.66% and our 15th position would remain unchanged.

Thank you for your prompt and continued cooperation.

Michael N. Eha  
Marketing analyst  
Total Petroleum, Inc.  
Retail Division



# NOTE

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30-34, 36-41

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October 1991

**\$7.00**

## Natural Gas Comes to Transportation Market Jobber Grows With C-Stores, Commercial Accounts Oil Industry Is Still a Big TBA Power

**NPN**

National Petroleum News

# Battle for No.1

# Shell

## vs.

# BP

[illegible]

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## Editor's Viewpoint

I don't know about you, but one of these years I'd like to see us get through the month of August without being sandbagged by a major world crisis. Last year, you will recall, Saddam Hussein decided to invade Kuwait, which in turn caused a series of events in the oil industry that most of us would like to forget. This year, exactly 381 days later, hard-liners in the Soviet Union decided to toss out Mikhail Gorbachev and turn the Soviet clock back a generation or two.

Besides putting the world in a state of shock and catching the White House by surprise, the crisis caused stock prices to plummet and the reports of Gorbachev's ousting pushed the dollar sharply higher against the yen. As events continued to unfold in lightning-quick fashion, all I could think about was what this would do to the oil industry.

Logically, for all practical purposes, the crisis should have had no real effect. The Soviet Union, despite its massive petroleum reserves—No. 1 in the world—has very antiquated production facilities and its oil industry is in the same sad shape as the rest of the country's economy. The Soviet contribution to the U.S. market is virtually nil. Still, a breakdown of the Soviet system, civil war perhaps, would have dramatically affected the world order and disrupted crude supplies.

Interestingly, only a year after the invasion of Kuwait, the price of oil appeared to have stabilized around \$20/bbl. to \$22/bbl. However, the sequestering of Gorbachev sent the usual shudders through Western markets, inspiring oil prices to rise sharply in active trading on fears that Soviet exports would be reduced or even halted. On the New York Mercantile Exchange, light sweet crude oil closed up \$1.17/bbl. to \$22.47 after rising nearly \$3/bbl. in Europe.

Fortunately, this time, the panic that was simmering in the trading markets did not spread like wildfire out into the "real" petroleum marketplace, as it did following the Kuwait invasion, driving up prices at the rack and at the pump. This time, it appears the industry is to be commended for keeping its cool. And, double good fortune, in short order, Gorbachev and the good guys were restored to power, averting what could have been a very sticky world situation.

The attempted coup also caused some anxious moments in the boardrooms of several major oil companies. Companies like Amoco, Chevron, Conoco, Texaco, Marathon and Total have pending or proposed joint venture deals to help the Soviets develop their resources and modernize their antiquated industry. With the restoration of order, it now appears some of these projects will be allowed to proceed.

But it's a safe bet that the executives of those companies will be paying closer attention to developments in the Soviet Union and elsewhere around the world. As should we all. What we don't need is another nerve-shattering August surprise.

On the lighter side, I've decided that my senior editor is not going to be allowed to take a vacation anymore. I don't know, but it sure appears that every time he takes a couple of weeks off, there's a world crisis. Last year it was the invasion of Kuwait and this year it was the ousting of Gorbachev. Do you think the Kremlin was watching? Maybe not, but somebody sure is. And everytime a potential oil crisis rears its ugly head it makes our office as crazy as I'm sure it does your businesses.

—Peggy Smedley

NPN—National Petroleum News (ISSN 0149-5267) is published monthly (except semi-monthly in June) by Hunter Publishing Limited Partnership, 950 Lee Street, Des Plaines, Illinois 60016. (708) 296-0770.

© NPN—National Petroleum News

Second class postage paid at Des Plaines, Illinois and additional mailing offices.

Subscriptions are solicited only from executive, management and supervisory personnel at the supplier and wholesale level of oil marketing, engaged in the distribution, merchandising, transportation and storage of petroleum, TBA products, and convenience store items. Position, company and segment of industry must be indicated on subscription orders.



Basic subscription rates for one year to individuals in the petroleum marketing industry are: U.S. \$60, Canada \$69 (U.S. \$); Foreign surface mail \$75 (U.S. \$); Foreign airmail \$110 (U.S. \$). Non-industry personnel rates for one year are: U.S. \$75; Canada \$84 (U.S. \$); Foreign surface mail \$90 (U.S. \$); Foreign airmail \$134 (U.S. \$); Single copy price: U.S. & Canada \$9.00 (includes first class postage). Foreign \$11.00 (includes airmail postage). Mid-June Factbook: U.S. \$50, Canada \$60; Foreign \$70. The publisher reserves the right to accept or reject any subscription. (R) Title registered in U.S. patent office. Change of address: Notices should be sent promptly; provide old mailing label as well as new address; include ZIP or postal code. Allow 6-8 weeks for change. Send address changes, correspondence regarding subscription service or subscription orders to: Circulation Department, NATIONAL PETROLEUM NEWS, 950 Lee Street, Des Plaines, Illinois 60016. Or call (708) 296-0770, 9 a.m. to 4 p.m.

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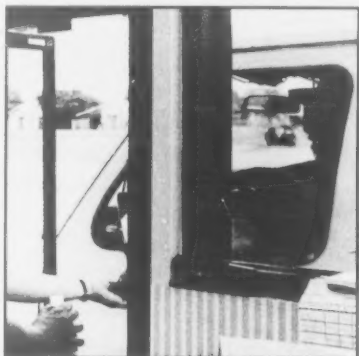
A wrestling match is underway between Shell Oil Co. and BP America. The prize is U.S. gasoline supremacy.

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Compressed natural gas is the front runner in the search for cleaner-burning motor fuels. Find out how it is marketed, and who is currently marketing it.

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San Antonio-based Ram Oil Corp. has plotted a course for growth by diversifying into gasoline/C-store retailing and commercial/industrial sales.

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## ● TRENDS

### Japanese Develop Battery That Can be Recharged in 15 Minutes

Nissan Motor Corp.'s recent announcement that it has developed a battery that can be recharged in 15 minutes unquestionably means that the ongoing race to be first on the street with an electric car capable of competing with modern gasoline-powered buggies has been given a real shot in the arm.

This isn't the "Eureka, we've got it" kind of a solution that researchers have been seeking for a half-century or more. But it is a quantum leap, no doubt about that. Up to now, one of the biggest problems has been the fact that it required 18 to 24 hours to recharge the batteries that American carmakers have been experimenting with. With this kind of a handicap, as well as the weight and number of batteries that have to be used, there are no lights to be seen at the end of the tunnel at this time.

Nissan is to introduce its electric car and the vastly improved battery at the big fall auto show in Tokyo this month. A four-passenger sedan, it has a top speed of 81-mph, with a cruising range of 100 miles at 45-mph or about 70 miles at 60-mph. It can accelerate from ground zero to 60-mph in about the same time it takes a modern subcompact to do it. That's not good for the jack rabbit enthusiasts of the superhighways but nevertheless it's a workable design for conventional neighborhood driving.

Everybody pretty well agrees that there are numerous technical hurdles that must be overcome before the Japanese battery can achieve commercial success. *The New York Times*, in its report on the Nissan announcement made in Detroit just before Labor Day, made this pungent observation, however: "Japanese carmakers typically do not display vehicles that do not have a high likelihood of being produced."

In themselves, electric cars are anything but new. They've been around, as a matter of fact, for almost as

long as have the gasoline-powered vehicles. There have always been high hopes that a workable battery was lurking out there just over the horizon awaiting the day that lab researchers would shout "Eureka." Clean Air requirements, environmental demands and the current tizzy over reformulated and alternative fuels have turned up the heat now on the quest for a satisfactory electric car.

California, for example, has already put it in writing that 2% of all 1998 model cars must have no tail pipe emissions, and that by 2003 10% of all cars will be covered by that law. The Big Three automobile makers initiated a joint project in January to accelerate their quest in battery technology. GM has already selected a shut-down plant in Lansing, Mich., to build its new Impact two seater, but has not announced a startup schedule.

Nissan's new car is powered by a nickel-cadmium battery vis a vis the lead-acid batteries of the American industry. But that, in itself, constitutes a major problem for Nissan. Nickel-cadmium batteries are five times more toxic than the lead-acid ones, raising serious question as to how they can be disposed of once their useful life is finished. Another big problem is that the nickel-cadmium batteries must have a high-energy power source, not a conventional electric outlet, for the recharging process. These are not readily available everywhere at this time.

Nissan says it is intensifying its research to find an acceptable recycling method for its new battery to minimize the waste and toxicity problems and also, if possible, an easier way to find sources for the high power it must have for recharging in 15 minutes. A company spokesman agreed that "a number of things have to be looked at before this car can become practical."

The Japanese, in recent years, have all but up-ended just about everything they've gotten into. Look at the millions of small car imports they've inspired; consider what they have done to the television and electronic industries, especially the chips of modern science. Can it be speculated that now that they're knee-deep in nickel-cadmium batteries and the electric cars of tomorrow, that soon may come an "Ah so" before a Yankee "Eureka?"

—J. Richard Shaner

## ● MARKETPLACE AT A GLANCE

### AVERAGE GASOLINE PRICES IN THE U.S. (per gal.)

|                | Gasoline<br>(All types) | Leaded<br>Regular | Unleaded<br>Regular | Unleaded<br>Premium |
|----------------|-------------------------|-------------------|---------------------|---------------------|
| JULY           |                         |                   |                     |                     |
| U.S. City Avg. | \$1.185                 | *                 | \$1.127             | \$1.313             |
| Regions        |                         |                   |                     |                     |
| Northeast      | 1.271                   | *                 | 1.193               | 1.403               |
| North Central  | 1.175                   | *                 | 1.136               | 1.296               |
| South          | 1.176                   | *                 | 1.105               | 1.286               |
| West           | 1.129                   | *                 | 1.088               | 1.270               |

\* Data no longer collected or available.

Source: U.S. Dept. of Labor, Bureau of Labor Statistics.

### STOCKS (Add 000 bbl.)

|                               | 8/30/91 | 8/31/90 |
|-------------------------------|---------|---------|
| Gasoline (Total) <sup>a</sup> | 209,622 | 210,459 |
| Jet Kerosine                  | 42,069  | 41,982  |
| Distillates                   | 126,657 | 126,671 |
| Residual                      | 46,217  | 49,229  |

<sup>a</sup> Leaded regular prices no longer collected by Bureau of Labor Statistics.

Source: American Petroleum Institute.



# EIA Expects Little Change In U.S. and World Markets

If the Russian upheaval is put aside for the moment, a fresh update on what's ahead for oil marketers in what's left of 1991 and for all of 1992, the so-so projections of the past really haven't changed much. In brief, *deja vu* over and over again, month by month.

The general expectancy of the industry's international experts and the long-range soothsayers of the American financial marts is that the Soviet unrest won't have much impact on global petroleum operations.

Most of the Soviet Union's oil fields, production, pipelines, refineries and pipeline system were in the hands and control of the Russian republic in late August. (Don't forget, there's a vast difference between Russia itself and the U.S.S.R., which is the Union of Soviet Socialist Republics). The peeling off of the fringe nations in the South and West should not affect the petroleum operations to any degree. And the one thing that Russia needs to do is keep its exports in good order lest its economic balance go down the drain.

Russia's petroleum production has been declining in recent years, but since the bulk of its exports go to Europe and Asia, the United States hasn't felt any of it.

Where American oil marketers are concerned, the U.S. government's Energy Information Administration's third-quarter forecast (see table) tells it all in a hurry.

The government agency says:

"Only gradual growth is expected in the [U.S.] economy for many reasons. First, housing sales and residential construction, sectors which grow fast after recessions, still suffer from over-capacity. Second, consumption is not likely to rebound fast because debt levels remain high. Third, fiscal policy is not likely to provide further stimulus since both the federal and state governments are under pressure to cut spending. Finally, recent losses and increased capital requirements in the financial sector will slow the expansion of credit over the next several quarters."

U.S. crude oil production is expected to get a brief respite from the decline of recent years. Output in 1991 will be about the same as 1990's 7.4-million b/d. Next year, however, the erosion resumes, with production expected to decline between to somewhere between 6.9-million and 7.3-million b/d.

Here's a more definitive forecast on prices generally:

"Based on crude oil prices of \$19.12/bbl. in 1991 and \$20.25/bbl. in 1992, most petroleum product prices should decline in 1991, then rise slightly in 1992.

"Motor gasoline prices, in contrast to the sharp fluctuations in 1990, are expected to exhibit comparative stability this year, although normal seasonal variations can be expected. Annual average pump

prices for gasoline should be about even with the 1990 levels, with decreases in the relatively higher refiner margins of 1990 offsetting increases in retail margins. In 1992, higher crude oil costs and inflation are expected to add an additional 3¢/gal. to the pump prices.

"Heating oil and diesel fuel prices should follow gasoline prices, with prices increasing moderately in 1992. However, severe winter weather could increase distillate prices by considerably more.

"Residual fuel oil prices are expected to average about \$3.30/bbl. less than crude oil prices in 1991, as the supply of this fuel is projected to be more than adequate. This price difference is expected to increase by \$1 to just over \$2.40/bbl. in 1992, as the economy picks up and the supply returns to normal range."

The government's third-quarter forecast said U.S. petroleum demand averaged 17.0-million b/d in 1990 and is expected to average 16.6-million b/d in 1991. In 1992, the forecast said, mid-case petroleum demand is expected to increase to 16.9-million b/d.

The 1990 average demand of 17.0-million b/d represents a 1.9% decline from that of the previous year. The slowdown in economic activity, price hikes during the second half of the year resulting from the Persian Gulf crisis and milder fourth-quarter weather in 1990 accounted for much of that decline.

## Looking Ahead, the U.S.S.R. Notwithstanding

Gasoline: Down in '91, Rebounding in '92

### PRICES

Fuel Oil: Sluggish, Wholesales and Retails Alike  
Nominal dollars per gal.

|              | —1991— |      |      |      | —1992— |      |      |      | —Full Year— |      |      |
|--------------|--------|------|------|------|--------|------|------|------|-------------|------|------|
|              | 1Q     | 2Q   | 3Q   | 4Q   | 1Q     | 2Q   | 3Q   | 4Q   | '90         | '91  | '92  |
| Gasoline (a) | 1.21   | 1.19 | 1.22 | 1.21 | 1.17   | 1.25 | 1.28 | 1.27 | 1.22        | 1.21 | 1.24 |
| No. 2 Diesel | 1.20   | 1.11 | 1.12 | 1.20 | 1.21   | 1.18 | 1.18 | 1.26 | 1.17        | 1.15 | 1.20 |
| No. 2 Whsl.  | 0.69   | 0.59 | 0.57 | 0.63 | 0.65   | 0.61 | 0.60 | 0.66 | 0.70        | 0.61 | 0.63 |
| No. 2 Retl.  | 1.11   | 0.94 | 0.93 | 1.02 | 1.06   | 1.02 | 0.98 | 1.07 | 1.06        | 1.04 | 1.05 |
| No. 6 Resid. | 0.42   | 0.31 | 0.35 | 0.41 | 0.43   | 0.40 | 0.41 | 0.45 | 0.44        | 0.37 | 0.42 |

(a) Average retail, all services and all grades.

Gasoline: Flat in '91, About the Same in '92

### DEMAND

Fuel Oil: Down a Bit in '91, Up a Bit in '92

|            | Millions of b/d |      |      |      |      |      |      |      |      |      |      |
|------------|-----------------|------|------|------|------|------|------|------|------|------|------|
| Gasoline   | 6.83            | 7.70 | 7.31 | 7.19 | 6.90 | 7.25 | 7.30 | 7.19 | 7.23 | 7.16 | 7.16 |
| Distillate | 3.11            | 2.83 | 2.66 | 3.21 | 3.54 | 2.93 | 2.77 | 3.29 | 3.02 | 2.95 | 3.13 |
| Residual   | 1.19            | 1.15 | 1.00 | 1.16 | 1.26 | 0.99 | 1.01 | 1.15 | 1.23 | 1.13 | 1.10 |

Total Product Demand (includes all other products)

|               |      |      |      |      |      |      |      |      |      |      |      |
|---------------|------|------|------|------|------|------|------|------|------|------|------|
|               | 16.4 | 16.3 | 16.5 | 17.1 | 17.2 | 16.5 | 16.7 | 17.3 | 17.0 | 16.6 | 16.9 |
| Net Impts.(a) | 5.63 | 7.10 | 6.89 | 6.94 | 7.02 | 7.34 | 7.48 | 7.28 | 7.1  | 6.64 | 7.28 |

(a) Crude and products; Net equals imports minus exports.

# Battle For No. 1: Are BP and Shell in a Showdown

Although this may sound far-fetched, some oil industry economists are already speculating that Shell Oil Co. and BP America may be engaged ere long in a no-holds-barred struggle for preeminence in the U.S. gasoline market, something akin to a championship arm-wrestling match between the most muscled of them all.

There is real irony in this, of course; i.e., the very idea that two mighty British and British-Dutch oil companies would be fighting it out via their wholly owned American subsidiaries for the honor and glory of being the No. 1 retail gasoline marketer in the United States—and probably the world as well.

Somewhere in this scenario there has to be a fleeting thought of *deja vu*, recalling the pre-revolutionary days when British Royalists ruled the Colonies from afar and with an iron hand, too.

What suddenly makes this latter-day contest a realistic possibility, however, are the slippage problems that Shell has been having in recent years versus the concurrent growth activity that seems to be permeating just about everything that BP America has been doing.

Of course, for Shell and BP to achieve a title fight status of their own in the relatively near future, there are five other companies that have to be disposed of or bypassed first, namely Chevron, Texaco, Exxon, Amoco and Mobil.

These companies are currently second, third, fourth, fifth and sixth in the statistical comparisons of U.S. gasoline market shares and standings.

They are all ahead of BP and behind Shell in the rankings. Technically, Chevron should be the one to replace Shell as the No. 1 gasoline marketer this year, because it was the first runner-up last year. But Chevron has been rather static in its marketplace movements in first-half 1991, even though it was only a half-billion gal. behind Shell in the 1990 gasoline derby. Mighty Exxon also was a slow mover in 1990. But singly or collectively, none of these giants are likely to concede anything to one another in the gasoline marketplaces.

The problems they pose for BP, in particular, and to each other are not really insurmountable, however. Look at it this way: There were only 3.3-billion gal. of

gasoline between first-place Shell (10.2-billion gal.) and seventh-place BP America (6.9-billion gal.) in 1990. A chain of 3,500 stations, or an aggregate of stations roughly equaling that number, each doing about 95,000 gal./mo. could easily generate that much volume. That might be too much for some companies to bite off, but BP has already swallowed up more than 5,000 stations in a single gulp—the Chevron/Gulf acquisitions in the Southeast in 1985.

Things may happen as early as this year—the end of '91, that is—but the greater likelihood is that 1992 or 1993 will see BP surging all over the place, upstaging Mobil, Amoco and Exxon and maybe Texaco and Chevron as well. BP is beating the bushes on the East Coast and the Northwest, perhaps looking for new chains, big or small, to buy, while the others are browsing in the open fields.

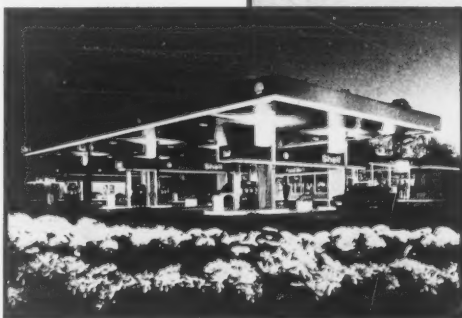
Shell and the others will have to become more aggressive in their activities from now on or they'll likely fall out of contention for the title of the biggest gasoline marketer anywhere. Not many gasoline analysts may realize it, but Shell's gasoline sales are already down 3.3% in the first half of 1991. That's roughly 600-million gal. and if the second half is no better than the first, Shell, Chevron, Exxon and Texaco may be in a tight scramble for first place by the end of this year.

Much depends on how (and if) Shell extricates itself from the profitability whirlpools it has been caught up in the past several years. Much depends, too, on how fast and how soon BP America can turn up the heat in its determination to gain a longer and stronger foothold in the gasoline marketplace, including the prestigious No. 1 position in U.S. sales.

## International competitors

No one in the BP households in Cleveland or London is willing to say out loud that the British overlords have just

that sort of a scheme in mind. But as surely as two and two make four, the probability is there. Shell and BP/London are tough competitors overseas, in exploration, production, refining and marketing. The



Virtually all of Shell's 9,400 retail service stations are open night and day, seven days a week. Most have substantial volumes as a result, many easily exceeding 1-million to 1.5-million gal./yr.

By J. Richard Shaner  
Executive Editor

# for Gasoline Supremacy?

Royal Dutch/Shell Group, with global assets of \$106-billion, is half-again bigger than BP, although the latter company is the largest in the UK and the second largest in Europe.

That has intensified rather than diminished their appetites for competition. Isn't it logical to assume that these international traits would overflow into the American marketplaces as well?

It should be borne in mind that BP/London's management has something else going for it that obviously gives it an advantage over its contemporary opponents in London and The Hague. This is a high-level understanding of and appreciation of the American marketplace as never before.

When BP/London decided to change things around in the U.S.A. five years or so ago, the board of directors brusquely (some say almost brutally) dumped resident executives Alton M. Whitehouse (chairman) and John H. Miller (president). The latter gentlemen, it was said at the time, had flown to London for what they thought was to be a routine planning session. Once there, they were told, as the story goes, not to unpack their bags but to take the next plane for home because they were no longer working for BP. In their places, BP sent over a tough but charismatic

deputy managing director, Robert B. Horton, to repair the damages and to direct the consolidations and realignments of the subsidiary companies and the work forces in the U.S.

Horton worked hard, shook hands and made innumerable business and personal friends in Cleveland and the U.S. oil industry. By the end of 1987 it was announced that he would return to London in early 1988 to become chairman of BP America in corporate headquarters. It was only a matter of time until he became a managing director, then chairman of BP/London, top man in the whole conglomerate.

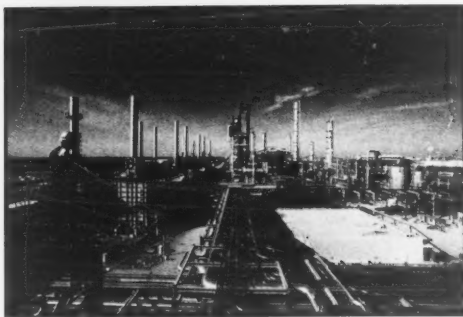
Horton made it known immediately that his personal thrust would be dedicated to making BP "the most successful oil company of the 1990s and beyond." With his intimate knowledge of the American scene and corporate recognition that the American gasoline market was the greatest in the world, no one doubted for a moment that BP's American interests would receive bountiful blessings from overseas. That's what is happening right now and appears to be only the beginning.

## Room at the top?

The story of how BP America got its start in the marketing of gasoline and other refined products in the U.S. is both con-



BP has now rebranded just about all of its 7,500 service stations in 33 states, focusing attention domestically and internationally on BP. With this chore completed, the next step is to hype gasoline sales. BP generally sells a couple of cents off the marketplace.



Shell is the third-largest refiner in the U.S. with a capacity of 1.8-million b/d in five states. Shell's 120,000 b/d unit in Wilmington, Calif., is up for sale.

fusing and tantalizing, especially in the more recent years. Here's a condensed summary:

BP/London used to have a division known as BP North America (later known as BP Oil Corp.), which was headquartered in New York and primarily inter-

ested in exploration and production. It was one of the early-on discoverers in 1968 of great gobs of crude oil in the Prudhoe Bay area of Alaska.

On Jan. 1, 1970, crude-rich BP Oil Co. was merged into crude-poor Standard Oil Co. (Ohio) in a complex agreement that gave BP a 25% interest in Standard of Ohio with a proviso that this 25% interest could be increased to 53% when Alaskan production reached 600,000 b/d.

This, in substance, gave Standard of Ohio immense crude oil reserves in Alaska, doubled its refinery capacity and assets, expanded Sohio's marketing capability from six to 21 states and included an interest in an extensive transportation system. It also enabled Standard of Ohio to break out of its one-state marketing orbit and soar to the skies.

But the price ultimately proved to be high—very high. In January 1979, Prudhoe Bay production exceeded 600,000 b/d and BP/London then owned a 53% controlling interest, later increased to 55%, in the American firm.

In March 1987, BP/London bought the remaining 45% it didn't own. After a short hassle over the price of shares, BP owned Standard of Ohio lock, stock and barrel and registered ownership under BP America, Inc., a wholly owned subsidiary. In 1990, BP decided on the use of BP as a global logo and began a domestic program of unifying all of its U.S. gasoline activities under that name.

During the '70s and the '80s, The Standard Oil Co. (Ohio) thrived as a one-state marketer under the Sohio name, but with secondary brand names as Boron and BP Oil. In April 1985, Standard bought 5,600 Gulf Oil service stations in the Southeast from Chevron Oil Co. and retained this brand name, too, until the 1990 rebranding.

In 1990, BP rebranded and reimaged 4,350 former Boron and Gulf-branded stations. By the end of



BP operates five refineries in Ohio, Pennsylvania, Louisiana and Washington. The most recent addition, a 77,400 b/d unit near Ferndale, Wash., purchased from Mobil two years ago, marked its first penetration of the Pacific Northwest and the beginning of its campaign to be a major gasoline marketer on the West Coast.

1991, the company says it will have completed the changeover to BP's green "livery" a year earlier than expected. Marketing investments have been averaging about \$1-billion/yr. worldwide over the past two years. A good portion of these investments are being spent in the United States and are being used to "reinforce" and "expand" its retailing positions in Ohio, the West Coast and Southeast, says BP.

Along the way, Standard also bought



BP America had this handsome skyscraper constructed in downtown Cleveland to house all of its principal American affairs and enable its key executives to be almost within a stone's throw of each other.

### Earnings Reports: Where the Money Is

#### Around the World (millions of dollars)

|                | BP/London | Royal Dutch/<br>Shell |
|----------------|-----------|-----------------------|
| Full-year 1990 | \$5,302.0 | \$6,533.0             |
| Full-year 1989 | 4,817.0   | 6,539.0               |
| % Change       | 10.1      | —                     |
| 6-mo. 1991     | 1,510.0   | 2,529.0               |
| 6-mo. 1990     | 1,077.0   | 2,295.0               |
| % Change       | 40.2      | (10.2)                |
| 1st-quar. 1991 | 986.0     | 1,649.0               |
| 1st-quar. 1990 | 599.0     | 2,055.0               |
| % Change       | 64.6      | (19.8)                |
| 2nd-quar. 1991 | 515.0     | 910.0                 |
| 2nd-quar. 1990 | 478.0     | 940.0                 |
| % Change       | 7.7       | (3.2)                 |

#### The American Subs

|                | BP Amer.  | Shell Oil |
|----------------|-----------|-----------|
| Full-year 1990 | \$2,631.0 | \$1,036.0 |
| Full-year 1989 | 2,188.0   | 1,405.0   |
| % Change       | 20.2      | (26.3)    |
| 6-mo. 1991     | 1,077.0   | 57.0      |
| 6-mo. 1990     | 1,291.0   | 363.0     |
| % Change       | (16.6)    | (84.3)    |
| 1st-quar. 1991 | 65.0      | 125.0     |
| 1st-quar. 1990 | 732.0     | 203.0     |
| % Change       | (11.1)    | (39.4)    |
| 2nd-quar. 1991 | 426.0     | (68.0)    |
| 2nd-quar. 1990 | 559.0     | 161.0     |
| % Change       | (23.8)    | —         |

Note: BP's earnings are stated in replacement costs; U.S. segment includes nutrition and business and corporate items. Shell's earnings are conventional net.





Shell's Autocare stations, a big hit with thousands of customers, have been lauded by consumer organizations for their up-front, made-in-advance cost commitments.

Truckstops of America, the second-biggest truckstop chain in the U.S. with 43 locations in 26 states and introduced its ProCare centers, a new approach to standalone car maintenance and repair facilities.

What BP is thirsting for now is major representation on the West Coast to take advantage of its Alaskan crude oil riches. In late 1988, it took a big step in this direction. It bought Mobil Oil Co.'s 77,500 b/d refinery in Ferndale, Wash., and swapped enough of its southeastern service stations with Mobil to give it a presence of sorts in the Pacific Northwest. Mobil pulled out.

At this point in time, BP cannot help but be ready for action. Its unification problems in the U.S. are pretty well completed, its finances in the U.S. and abroad are strong, its earnings have been good (up 20% in 1990, while Shell lost 26%), and its appetite for growth is unquestioned. Unless the world falls apart, there is only one way it can go—up, up and up.

Under president John Bookout and before the establishment of Shell Oil Co. as a fully owned subsidiary of the Royal Dutch/Shell Group of companies in 1988, Shell USA had been getting growth and

| Corporate—Where the Money Is |                       |        |        |            |        |      |
|------------------------------|-----------------------|--------|--------|------------|--------|------|
|                              | Shell                 |        | %      | BP America |        | %    |
|                              | 1990                  | 1989   | Chng   | 1990       | 1989   | Chng |
|                              | (billions of dollars) |        |        |            |        |      |
| Revenues                     | \$24.8                | \$21.9 | 12.9   | \$18.6     | \$16.3 | 14.2 |
| Indus. Rank                  | 6                     | 5      | --     | 8          | 8      | --   |
| Earnings                     | 1.0                   | 1.4    | (26.3) | 2.6        | 2.2    | 20.2 |
| Indus. Rank                  | 10                    | 8      | --     | 2          | 3      | ---  |
| Assets                       | 28.5                  | 27.6   | 3.2    | 21.7       | 18.4   | 17.9 |
| Indus. Rank                  | 5                     | 5      | --     | 8          | 8      | --   |
| Employees (000)              | 31.6                  | 31.3   | 0.1    | 37.2       | 40.0   | 7.0  |

| Downstream—Where the Action Is |                    |       |       |            |       |       |
|--------------------------------|--------------------|-------|-------|------------|-------|-------|
|                                | Shell              |       | %     | BP America |       | %     |
|                                | 1990               | 1989  | Chng  | 1990       | 1989  | Chng  |
|                                | (billions of gal.) |       |       |            |       |       |
| Refined Products Sold          | 18.2               | 18.5  | (1.6) | 14.2       | 13.8  | 2.9   |
| U.S. Rank                      | 2                  | 2     | --    | 5          | 5     | --    |
|                                | (billions of gal.) |       |       |            |       |       |
| Gasoline Only                  | 10.2               | 10.1  | 0.1   | 6.9        | 6.6   | 4.5   |
| Volume                         | 8.8%               | 8.8%  | --    | 5.7%       | 5.7%  | --    |
| Share of Mkt.                  | 1                  | 1     | --    | 7          | 7     | --    |
| U.S. Rank                      |                    |       |       |            |       |       |
| No. of Svc. Stas.              | 9,389              | 9,763 | (3.8) | 7,531      | 7,464 | 0.9   |
| No. with C-stores              | 1,330              | 1,164 | 14.3  | 880        | 700   | 25.7  |
| No. of States                  | 41                 | 40    | 2.5   | 33         | 26    | 26.9  |
|                                | (thousands of b/d) |       |       |            |       |       |
| Refining Capacity              | 1,079              | 1,083 | (0.4) | 797        | 797   | --    |
| Capacity                       | NA                 | 7.10  | --    | NA         | 4.98  | --    |
| % of Indus.                    | 3                  | 3     | --    | 6          | 6     | --    |
| Rank                           |                    |       |       |            |       |       |
|                                | (thousands of b/d) |       |       |            |       |       |
| Crude Runs                     | 904                | 927   | (2.8) | 699        | 717   | (2.5) |
| Runs                           | NA                 | 6.86  | --    | NA         | 5.0   | --    |
| % of Indus.                    | 3                  | 3     | --    | 6          | 6     | --    |
| Rank                           |                    |       |       |            |       |       |
| % Utilized                     | 83.8               | 85.6  | (2.1) | 92.0       | 94.0  | (2.1) |

good marks everywhere. It became the nation's No. 1 gasoline marketer in 1986 and has held that title ever since. It basically is the only company that has been able to maintain gasoline sales at an annual rate of 10-billion-plus gal. Chevron did it for one year, immediately after it bought Gulf Oil in 1984, but that hardly counts.

Shell's gallonage slipped 4.4% in 1989 and increased only 0.5% in 1990. In the first six months of 1991, Shell appears to have slipped again, and if the second half equals the first half, Shell's hold on the No. 1 designation may evaporate.

Not helping this negative situation at all is the fact that Shell has found it necessary to trim its staff by 5,000 people this year and next. That may improve its cost-cut-

ting efficiency but it cannot help but harm its overall image and services.

Shell also is trying to sell its 120,000 b/d refinery in Wilmington, Calif., knee-deep in the Los Angeles Basin gasoline market, which is said to be the largest in the world. Shell "owns" about 15% of the Basin's gasoline volume which has been estimated at 9-million gal./day. That amounts to roughly 1.4-million gal./day. Once Wil-



Although Shell's service station total declined 3.8% in 1990, the number of Food Marts hit an all-time high of 1,330, up 14.3% over 1989. Stated another way, one out of every nine Shell stations had C-store facilities.



BP's retail network includes 40-some Truckstops of America stations in 21 states stretching from New Jersey south and west to California. All are big volume gasoline and diesel fuel vendors.



mington goes out the window, either as a sale or a shutdown, Shell will have to depend on the open market or, hopefully, a swap agreement with the buyer for gasoline supplies. Shell also says it may have to give up wholesaling and maybe some jobber sales in the Basin and southern California.

West Coasters are wondering why Shell is doing all this in the first place, and what the consequences may be [NPN—Aug. '91, p26].

Like BP, Shell and its antecedent companies have been on the American scene since the turn of the century. The early bird beginners were American Gasoline Co., a West Coast marketer, and Roxana Petroleum Co., a Midwestern crude producer. In 1985, the British and Dutch bought out the portion of Shell USA that it didn't own. Frank Richardson succeeded Bookout as president and it's his job to get Shell turned around or face the

ultimate day when Shell and BP will be tete-a-tete on who's the biggest and the best.

The following 10 years should be a very dramatic period for both Shell and BP officials. **N-V**

## The International Connections

● British Petroleum Co. p.l.c., London, England, has owned, since June 1987, 100% of BP America, which is chartered in Delaware and headquartered in Cleveland. BP/London is a \$59-billion entity with an operating presence in 70 countries around the world. BP America represents about 35% of BP/London's global assets. BP America, with 7,531 service stations and 880 convenience stores in 33 states, is the nation's seventh-biggest retail gasoline marketer, its biggest crude oil producer and one of its biggest refiners. There have been a variety of mergers and realignments in

the past 10-15 years, but BP America's U.S. antecedents go back to the early John D. Rockefeller days in the late 1870s. In fact, The Standard Oil Co. of Ohio, which BP America absorbed several years ago, was the original Rockefeller oil company.

● The Royal Dutch/Shell Group of companies, has, in substance, twin headquarters in London, England, and The Hague in The Netherlands. This conglomerate is owned 60% by Royal Dutch Petroleum Co., The Hague, and 40% by the "Shell" Transport & Trading Co., London. Its assets exceed \$106-billion and it also operates in 70-plus countries around the world. The Group owns 100% of Shell Petroleum Co., which is chartered in Delaware and is the 100% owner of Shell Oil Co., Houston. The latter company is the nation's No. 1 retailer of gasoline and has been for the past five years. Shell's American history dates back to 1912.

● The Royal Dutch/Shell Group of companies ranks fourth internationally in terms of assets (\$106-billion). General Motors Corp. is the world's largest company with \$180-billion in assets, followed by Ford Motor Co. (\$174-billion) and General Electric Co. (\$154-billion). Exxon ranked fifth with \$88-billion while BP America was ninth, with \$59-billion. In terms of sales and revenues, the Royal Dutch/Shell Group generated \$107-billion in 1990 to leapfrog over Exxon and Ford and land in second place, immediately behind General Motors (\$125-billion). BP/London was 20th with \$60-billion in sales.

Both companies are optimistic about their futures, the negatives notwithstanding.

Stephen L. Miller, Shell's vice president for marketing and refining, had this to say: "The future will certainly bring us more of the same challenges that we've been facing right along—operating in volatile markets, making expenditures to protect the environment and taking steps to meet legislative and regulatory initiatives." Miller says Shell, with the help of its dealers and jobbers, will continue to adapt to change and that the company itself "plans to increase investments in our network to make sure our customers' needs are met."

BP's top executive, Robert Horton, says his goal "is to make BP the most successful oil company of the 1990s and beyond." Need more be said?

## How They Stack Up on A State-by-State Basis

Shell, with 9,389 outlets in 41 states, is only nine states away from being a truly national company with retail stations in all 50 states. BP America, on the other hand, is more of a regional company at this time with most of its 7,531 gasoline stations in the states east of the Mississippi. It is now in the process of establishing itself on the West Coast to take advantage of its Alaskan crude output. Here's the state-by-state run-down:

|                           | BP America | Shell |
|---------------------------|------------|-------|
| <b>Northeast</b>          |            |       |
| Maine                     | 3          | 0     |
| New Hampshire             | 12         | 12    |
| Vermont                   | 39         | 0     |
| Massachusetts             | 79         | 221   |
| Rhode Island              | 0          | 55    |
| Connecticut               | 53         | 132   |
| <b>Mid-Atlantic</b>       |            |       |
| New York                  | 44         | 245   |
| New Jersey                | 69         | 275   |
| Pennsylvania              | 405        | 100   |
| <b>South Atlantic</b>     |            |       |
| Delaware                  | 10         | 37    |
| Maryland                  | 25         | 222   |
| Dist. of Col.             | 0          | 9     |
| Virginia                  | 146        | 274   |
| West Virginia             | 69         | 17    |
| North Carolina            | 763        | 336   |
| South Carolina            | 432        | 168   |
| Georgia                   | 818        | 341   |
| Florida                   | 534        | 625   |
| <b>East North Central</b> |            |       |
| Ohio                      | 997        | 421   |
| Indiana                   | 8          | 328   |
| Illinois                  | 2          | 604   |
| Michigan                  | 85         | 538   |
| Wisconsin                 | 0          | 127   |

|                           |     |     |
|---------------------------|-----|-----|
| <b>East South Central</b> |     |     |
| Kentucky                  | 526 | 286 |
| Tennessee                 | 647 | 228 |
| Alabama                   | 473 | 282 |
| Mississippi               | 445 | 216 |

|                           |   |     |
|---------------------------|---|-----|
| <b>West North Central</b> |   |     |
| Minnesota                 | 0 | 0   |
| Iowa                      | 0 | 12  |
| Missouri                  | 1 | 182 |
| North Dakota              | 0 | 0   |
| South Dakota              | 0 | 0   |
| Nebraska                  | 0 | 0   |
| Kansas                    | 0 | 0   |

|                           |   |     |
|---------------------------|---|-----|
| <b>West South Central</b> |   |     |
| Arkansas                  | 0 | 91  |
| Louisiana                 | 0 | 409 |
| Oklahoma                  | 1 | 2   |
| Texas                     | 2 | 594 |

|                 |   |    |
|-----------------|---|----|
| <b>Mountain</b> |   |    |
| Montana         | 0 | 0  |
| Idaho           | 0 | 24 |
| Wyoming         | 0 | 0  |
| Colorado        | 0 | 0  |
| New Mexico      | 3 | 74 |
| Arizona         | 1 | 53 |
| Utah            | 0 | 17 |
| Nevada          | 0 | 38 |

|                |     |       |
|----------------|-----|-------|
| <b>Pacific</b> |     |       |
| Washington     | 232 | 211   |
| Oregon         | 241 | 179   |
| California     | 356 | 1,360 |
| Alaska         | 0   | 0     |
| Hawaii         | 0   | 57    |

|                 |       |       |
|-----------------|-------|-------|
| <b>Totals</b>   |       |       |
| No. of stations | 7,531 | 9,389 |
| No. of states   | 33    | 41    |

# Look Out: Here Comes Natural Gas in Transportation Market

Compressed natural gas (CNG), the closest rival to gasoline and diesel fuel in the transportation market, is gaining significant ground. While it is a long way from making a mark, it is laying the foundation for an eventual run on market share. It is front runner in the quest for cleaner-burning motor fuels.

Natural gas utilities are the driving force behind the present growth of CNG fueling stations. They, in turn, are driven by a huge oversupply of natural gas and stricken prices. Until natural gas gains wider distribution later in this decade, perhaps the only hope for recovery of prices is expansion into the transportation market. It is also the potential long-term redeemer.

The powerful American Gas Assn. (AGA), representing utilities, natural gas pipelines and natural gas suppliers, is also actively promoting CNG as a transportation fuel. The Natural Gas Supply Assn., representing producers, is letting AGA take the lead.

AGA has published a directory of 325 CNG fueling stations in the United States. The book lists 120 companies that are manufacturing products or providing services for the natural gas vehicle (NGV) market.

Heavy promotion is also being done by the Natural Gas Vehicle Coalition, organized in 1988. Its members are natural gas distribution companies; pipelines and gas producers; manufacturers of buses, trucks, vans, cars and engines; NGV service organizations and consultants; research and development organizations; nonprofit advocacy organizations; state and local government agencies or their representatives; and environmental organizations.

## Opportunity for marketers

Despite their deep economic interest in CNG marketing, utilities and other natural gas groups for the most part do not appear to be interested in retailing. This is opening the way for oil companies to set up CNG fueling facilities at existing stations and even develop chains. Some new programs are tailored to help independent marketers do so.

By Mark Emond  
Staff Reporter

The cost of a CNG fueling facility is forbidding. Without subsidies or easy financing, or both, it's out of the question for a company to enter CNG marketing with a return in mind.

Simply, it takes a lot of NGV production or conversions to create sufficient demand, and it takes a lot of CNG fueling facilities to make it possible for NGVs to travel the roads freely.

Some of the utilities are also offering financial incentives to encourage fleet

operators to convert to natural gas. This target enables the utilities to accomplish expansion in sizable steps, rather than one vehicle at a time. The cost of natural gas is appealing at 70¢/gal. gasoline equivalent.

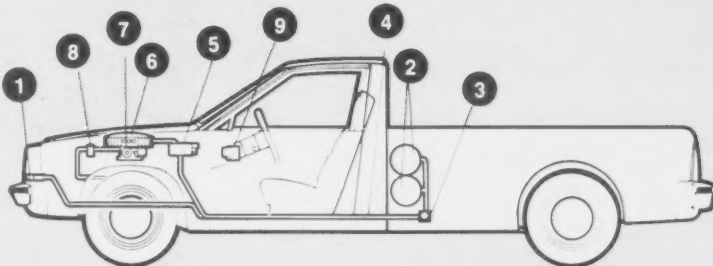
Some states are offering incentives for conversion to cleaner-burning fuels, including natural gas.

The heavy publicity surrounding CNG fueling developments is strong evidence that the financial backing is formidable.

## Vehicle Conversion to Natural Gas is Easy, and Converted Vehicles Can Use Either Natural Gas or Gasoline

Conversion of a gasoline vehicle to natural gas is a simple process that does not require removal of any original equipment. Natural gas cylinders are mounted in the rear of the vehicle and a natural gas fuel line is connected to the engine's existing

combustion system through regulated mixer equipment. A fuel gauge switch installed on the dash permits selection of either natural gas or gasoline operation, which results in a bi-fuel vehicle that has the advantage of an extended fuel range.



## How a Natural Gas Vehicle System Works

- ① Natural gas from a fueling station enters a vehicle's natural gas fuel system through a fill valve.
- ② The natural gas flows into compressed natural gas (CNG) cylinders located in the rear of the vehicle.
- ③ When natural gas is demanded by the engine, it travels from the CNG cylinders through the master manual shutoff valve.
- ④ The natural gas then enters the engine area through the fuel line.
- ⑤ Natural gas then enters the pressure regulator, where it is reduced to atmospheric pressure.
- ⑥ When the natural gas solenoid valve opens, the natural gas passes through the pressure regulator into the gas mixer.

Note: The natural gas solenoid valve is also used to shut off the natural gas supply, if the driver of the vehicle selects gasoline, rather than natural gas, to power the engine.

- ⑦ Natural gas mixed with air then flows down through the gasoline carburetor (or through the throttle body in the case of fuel injected engines) and on into the engine's combustion chambers.
- ⑧ Gasoline supply to the engine is controlled by either a solenoid valve (carbureted vehicles) or by a fuel injector relay (fuel injected vehicles).
- ⑨ A fuel gauge panel on the dash permits a selection of either natural gas or gasoline for operation of the vehicle.

## Emission Comparison of Five Motor Fuels

(grams/mile)

| Fuel           | Reactive Hydrocarbons |             | Carbon Monoxide | Nitrogen Oxides |
|----------------|-----------------------|-------------|-----------------|-----------------|
|                | Exhaust               | Evaporative |                 |                 |
| Gasoline       | 0.35                  | 0.04        | 1.40            | 0.66            |
| Methanol (M85) | 0.25                  | 0.09        | 1.00            | 0.45            |
| Ethanol (E85)  | 1.02                  | 0.05        | 1.80            | 0.61            |
| Propane        | 0.20                  | 0.0         | 1.40            | 0.27            |
| Natural gas    | 0.19                  | 0.0         | 0.01            | 0.44            |

Source: California Air Resources Board

Most of the money is coming from natural gas utilities, but some is from pipelines and suppliers, and more could be coming.

With expansion of CNG vehicles considered a socially worthy objective in the attainment of cleaner air, public utility commissions are likely to permit utilities to cover their subsidization costs by increasing rates. In an historic announcement, one has done so already—in California—and there will be more.

The California Public Utilities Commission (CPUC) unanimously authorized two utilities to obtain funding for CNG programs by raising gas rates to consumers. These are two of the largest such programs in the nation. Pacific Gas & Electric, San Francisco, will spend \$12-million the next two years; San Diego Gas & Electric will spend \$6.8-million the next two years. Southern California Gas is expected to obtain similar approval for its \$18-million CNG program.

Nothing quite like it exists in gasoline and diesel-fuel marketing, where there are no official price structures to guarantee profits. It could be a potent combination. As a practical matter for marketers, it could be a rising star to hitch onto—if they can (see sidebar p 39).

### CNG rolls

As the CNG juggernaut gains momentum, new fueling facilities are springing up in many areas, usually joint efforts involving local utilities. Fleet vehicles are considered most suitable for conversion because they log many miles of driving in congested cities and refuel at the same location.

Here's a rundown of recent CNG programs in the approximate order of their announcement this year:

- Bay State Gas Co. opened New England's first public CNG fueling station, in Springfield, Mass., at the rear of the company's property. The facility can fuel 120 vehicles a day. The company estimates that 10-million cu.ft. of natural gas will be dispensed there the first year.
- Provo, Utah, after initial testing of CNG vehicles, will convert all 1987-model and newer vehicles in its fleet to CNG. The city has signed a contract with Mountain

Fuel Supply Co. to convert 15 city vehicles, mostly police cars, to CNG. After an eight-month evaluation, the city will decide whether to purchase the conversion equipment installed in its vehicles by Mountain Fuel and proceed with additional conversions.

- The Houston Metropolitan Transit Authority (HMTA) is equipping 10 of 20 new full-size StarShip Apollo transit buses to run on liquefied natural gas (LNG) carried in cryogenic fuel tanks at temperatures of -250°F to -260°F. The tanks are described as 70 gal. thermos bottles. This is in compliance with what's called the "Texas Plan" adopted by the legislature, which requires centrally fueled

The oil companies are investing heavily into natural gas service stations and are testing consumer acceptance of this at a variety of locations across the country.

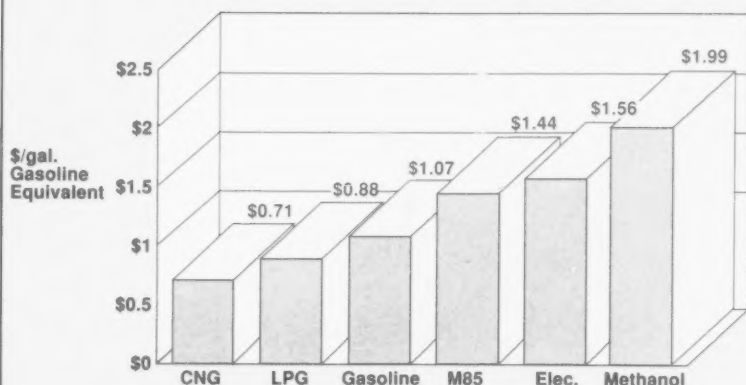
vehicles to phase-in use of alternative fuels.

The dual-fuel bus is supplied by Stewart & Stevenson Services Inc., Houston, at a cost of about \$250,000. CNG and LNG conversions cost between \$30,000 and \$40,000. HMTA has eight smaller buses operating on CNG and two on LNG.

Beginning Sept. 1, 1991, the plan calls for certain fleets to purchase only alternative fuel vehicles and convert 90% of their vehicles to alternative fuels by 1998. The fleets required to do this are state agencies with more than 15 vehicles, school dis-



# Estimated Prices of Gasoline and Alternative Fuels



Source: California Energy Commission

tricts with more than 50 buses, private fleets with more than 25 vehicles and all metropolitan transit authorities in Texas. ● A group of companies is planning to open several public and private CNG refueling stations and begin vehicle conversions. The group intends to develop an NGV retail refueling strategy for Brazoria, Chambers, Fort Bend, Harris, Liberty, Montgomery and Waller counties, Texas.

## CNG Vehicles Worldwide

More than 700,000 natural gas vehicles (NGVs) operate in 38 countries on six continents throughout the world, reports the American Gas Assn. (AGA)

The leading countries are Italy with 300,000, the Soviet Union with 200,000 and New Zealand with 110,000. Other countries with sizable NGV populations are the United States with 30,000, Canada with 20,000 and Argentina with 15,000.

The oldest NGV program is in Italy, where natural gas from the Po River valley has been used to fuel Italian cars, trucks and buses since 1935. Italy now has 240 public CNG refueling stations.

Vehicle manufacturers who make NGVs are British Leyland, Mercedes-Benz and Toyota. Chrysler, Ford and General Motors are conducting research on NGVs. GMC Truck Div. is building a dedicated natural gas version of its Sierra 3/4-ton pickup truck.

With plentiful natural gas supplies in the world, NGV expansion is planned. The Soviet Union is planning a total of 600,000 NGVs, Argentina 135,000, Indonesia 200,000, Thailand 50,000 and Pakistan 21,000.

Leader of the group, with a 50% share, is Natural Fuels Corp., Denver, owned jointly by Julander Platt Nelson, an investment banking firm; Public Service Co. of Colorado; and CIG, a subsidiary of Coastal Corp. Houston's natural gas utility, Entex, a division of Arkla Inc., owns 25%; Houston Pipe Line Co., a subsidiary of Enron Corp., owns 15%; and Vista Group Inc., a Houston investment firm, owns 10%.

Natural Fuels operates three public and two private CNG fueling stations in Denver and plans to open nine more this year. The company also operates a conversion and service center that can convert as many as 100 vehicles a month. It plans to open two more centers this year.

● Southern Union Gas Co. built a CNG station open to the public in Austin, Texas. Natural Gas Resources (NGR), Austin, installed the compressor and pump and trained mechanics to install its patented vehicle conversion kit. The station is operated by Frank Sapp, who leases it.

● Unocal Corp. and San Diego Gas & Electric (SDG&E) jointly opened a public CNG fueling facility at a Unocal station in Vista, Calif. At least one more is planned in the San Diego area. SDG&E provides the engineering, maintenance and cus-

tomers billing service and shares the startup costs.

With Southern California Gas Co. (SoCal), Unocal is opening one and possibly two CNG facilities in the Los Angeles area. The stations will be self-serve and will accept computerized cards issued to SoCal customers. SoCal Gas is providing design, engineering, general maintenance and customer billing, and Unocal dealers will operate the facility.

● Pacific Gas & Electric Co. (PG&E), San Francisco, expanded its network of CNG stations in March, opening to the public five new refueling stations at company sites in San Francisco, San Jose, Hayward, San Rafael and Bakersfield, Calif.

The utility already operates CNG stations for public use in Concord and Richmond.

PG&E planned to open 19 more in the near future. Says PG&E chairman and CEO Richard A. Clarke, "This clean, low-cost fuel is already gaining popularity among owners and operators of fleet vehicles. By making it more convenient we expect to increase its use, which will



Natural Fueling Stations are fully automated. Customers are provided with Natural credit cards and are billed monthly for their fuel.



clean up our air while reducing dependence on oil."

PG&E's goal in the 1990s is to convert 125,000 fleet vans and trucks to natural gas. They would replace 187-million gal. of diesel or gasoline a year. The company estimates that 500,000 fleet vehicles in its northern and central California territories are capable of operating on CNG.

In April, Shell and PG&E opened a CNG fueling facility at a Shell station in Sacramento.

PG&E began using CNG vehicles in its own fleet in 1973 and plans to have 500 in operation by the end of 1992.

- Two buses operated by the city of Colorado Springs, Colo., are testing high-altitude emissions of a CNG/diesel dual-fuel vehicle. A two-year, \$370,000 study is sponsored by the federal Mass Transit Administration, Colorado Springs Gas Dept., Colorado Interstate Gas Co., and Colorado Transit Management Inc. The city will pay 50-60¢/gal. gasoline equivalent for about 40,000 gal./yr. of CNG.

- Phillips 66 opened CNG fueling facilities at two of its retail outlets. One is at Stroud, Okla., on the Turner Turnpike, said to be the first commercial retail CNG outlet on a U.S. turnpike. The other is near I-40 in Oklahoma City. Oklahoma Natural Gas Co. is supplying the fuel. The state makes funds available to state agencies for conversion to cleaner-burning fuels, including CNG.

- Natural Fuels Corp., Denver, and Southern Union Co., an Austin, Texas, utility, joined forces to build a chain of CNG fueling stations and conversion centers in Texas, Oklahoma and Arizona. First targeted cities are Austin and El Paso in Texas and Flagstaff in Arizona.

- The California Air Resources Board (CARB) certified the first alternative fuel engine for use in the state—a CNG engine for use in school buses. This certification enables manufacturers to mass produce alternative fuel vehicles for sale in California.

- Tren-Fuels Inc., Austin, Texas, will provide mobile CNG delivery vehicles to the Houston Metropolitan Authority and Capital Metro in Austin. Its Gasmaster 2000 system, carried on an 18-wheel truck-trailer, compresses, transports and dispenses natural gas directly into vehicles or storage tanks.

An affiliate of Tren-Fuels, Texas Gas Transmission Corp., says the system delivers CNG for less than \$1/gal. gasoline equivalent. The equipment is said to be able to fuel 100 light-duty vehicles and 50 minibuses simultaneously.

- Austin's city council voted to launch a pilot program to convert 20 city vehicles to CNG. Based on results of a monitoring program, the city will decide whether to

## How to Market CNG

**Financial assistance is available for oil marketers who want to get into compressed natural gas (CNG) marketing, but at this point choices are few and the going could be rough. Without financial assistance, forget it.**

For example, marketers would need to invest as much as \$350,000 on a single two-hose CNG dispenser at an existing station, industry sources say. They would also most likely have to be located in a large urban market where fleet customers were available for CNG vehicle conversion.

Gas utility financing is becoming widely available, but only for major or other large oil companies at this time.

Some private companies offer financing, and there will likely be others in the future. One company offers a lease-purchase financing plan to marketers. The same company will also go into a joint venture with investors and a marketer or marketers.

Another company will go into joint ventures with marketers if their suppliers are behind them. In one case an oil company says it would consider working with a marketer to enter the CNG business.

A marketer interested in the business would do well at the outset to bone up on CNG technology, which is different from that of gasoline. Compressor size, for example, determines how many customers a station can handle.

Paul Nelson, vice president of Natural Fuels Corporation, a Denver-based alternative fuels marketer, estimates initial equipment costs at \$125,000-\$200,000 with construction costs adding another \$125,000-\$150,000. Included in construction would be the laying of pipe in the ground between the compression unit and the dispenser. The final price tag would depend on the size of the compressor installed.

Chris Haire, general manager of marketing and business development for Fina Oil and Chemical, says the typical MPD gasoline dispenser costs the company \$10,000 and \$15,000 installed, while the CNG dispensers it's putting in range between \$15,000 and \$22,000.

In Vancouver, British Columbia, where BC Gas operates 48 CNG units at existing gasoline stations, the price tag for equipping a public station with a 200-cfm (cubic feet per minute) compressor with one dispenser and two hoses comes to about \$260,000, says Glen Magel, manager of Natural Gas Vehicle (NGV) sales and service.

The size of the compressor will be determined by the number of vehicles served in a given period and the frequen-

cy with which they need to be filled, Magel says. Magel adds that most of the public stations in the Vancouver area have 200-cfm compressors. They dispense approximately 60,000-370,000 gal. of gasoline equivalent annually, depending on their location.

The compression facility, storage tanks, a dispenser and some sort of readout or metering device linked by piping and electrical conduits make up the key components of a CNG station.

Christopher Pedersen, vice president of finance for Tren-Fuels, an Austin, Texas-based consulting and financial services firm specializing in CNG projects, says marketers who initially plan to serve 10-30 NGVs can start with one dual dispenser, 30,000-cu.ft. to 60,000-cu.ft. of storage capacity and a small 50-cfm compressor.

But in order to market CNG to larger fleet customers and serve 30-50 NGV/day it will require larger capacity compressors—100-cfm to 200-cfm—two or more dual dispensers and expanded storage capabilities, Pedersen explains. CNG stations receive fuel from the local gas utility, which delivers it to the station through a meter similar to those used in private residences.

CNG requires relatively little storage on site and the need to truck in fuel is eliminated. An average station would store 500-2,000 equivalent gallons of CNG, and the fuel source is available 24 hours a day, Nelson says. "The gas comes in on your meter just like it comes into your house," Nelson says. "At the compressor it is put under 3,600-psi of pressure and is routed into the storage bottles."

Essentially CNG fuels by displacement," Nelson explains.

"For example, the tank on the vehicle might be at about 100-psi because it has just about run out...so with storage bottles with 3,600-psi of CNG at the other end of the line, you fuel by displacement of pressure."

Nelson says CNG fueling also can be done directly from the compressor, with the size of the compressor determining the amount of storage required.

Nelson comments that a station that uses a 50-cfm compressor would be relatively slow to fuel, requiring the gas be compressed into storage before it could be off-loaded into a fast fuel capability capacity.

On the other hand, fast-fill stations now in operation in Toronto that serve transit bus fleets have six 500-cfm compressors that shoot the fuel into the buses right from the compressors.

*(Continued on page 40)*



convert more vehicles to CNG or possibly dual-fuel vehicles using CNG or gasoline with the flip of a switch.

● Fina Inc., Dallas, and Lone Star Gas Co., Dallas, planned to install the first public CNG refueling station in the Dallas/Fort Worth area this year. By year-end, Fina will open CNG fueling facilities at Fina stations in areas where there are commercial and government fleets that would patronize them.

● Amoco Corp., Chicago, has joined with eight other companies to conduct a three-year fueling facility research project in Washington, D.C. The others are Washington Gas Light, American Gas

Assn., Gas Research Institute, Natural Gas Vehicle Coalition, Columbia Gas, Consolidated Gas, Tenneco and Southern California Gas. Because regulations ban selling the CNG for resale, the fuel will be sold only to the fleet vehicles of the participant companies and their guests.

Jointly with Natural Fuels, Amoco is operating CNG fueling facilities at two of its stations in Denver and Boulder, Colo. The one in Denver is located in a commercial/industrial area not far from downtown. The CNG dispenser is self-serve and designed to take about five minutes to fill. The price of CNG at the station in April was 64.9¢/gal. gasoline

equivalent.

The Boulder station is across the street from the University of Colorado. Amoco reported sales of 1,500 gal. of CNG in March.

● Southern California Gas Co. announced plans to spend \$18-million to build 51 new CNG stations in southern California by 1993. The purpose is to speed up development of a larger CNG chain by oil companies and other private firms.

SoCal Gas's aim is to help put 80,000 natural gas vehicles on the road, supported by a network of 1,300 CNG stations, by the year 2000. The target market is 600,000 buses, vans, trucks and other fleet

(Continued from page 39)

The public stations operated by Natural Fuels are typical of the CNG units now in use in that they use a simple fueling process at self-serve dispensers. "It is like putting air in your tire," Nelson says. "When you shoot the air in, it doesn't spill on your shoes. It rises if it leaks and it is a simple, clean process."

Nelson adds that the stations are required to meet National Fire Protection Assn. safety standards that set rules for spacing between dispensers. Everything is explosionproof on the island—including the lighting—and all dispensers are configured with a detachable hose. "If an absent-minded customer drove off with the dispenser, it would pop right off the coupling and that shuts off the gas," Nelson says.

He says that if somehow someone drove over the dispenser it would affect the pressure through the line and shut the gas off at the compressor and at the dispenser "so a flame shouldn't have access to the entire store."

Industry officials say a petroleum marketer considering the installation of a CNG unit should contact the local gas utility or fire marshal for local safety requirements.

At present there are several different approaches available to finance a CNG station. The most prevalent involves partnerships between gas utilities and major oil company retailers. Amoco, Unocal and Shell are all participating in ventures with large utility company partners in which the utility provides the capital for the investment and the oil company retailer provides the space for the CNG unit.

In what some industry observers view as a stronger commitment by an oil company to CNG marketing, Fina recently announced a joint venture with Lone Star Gas to set up CNG units in the Dallas-Fort Worth area. In this case, the oil company is making the investment in the equipment.

"Fina is saying there is enough potential in the CNG industry that they will go ahead and pay for the equipment up front," says Pedersen. "That makes them different from other major oil companies."

Pedersen says Tren-Fuels also offers a lease-purchase financing plan to marketers that would enable them to lease the CNG equipment. Payments under the lease-purchase agreement can be graduated so that they are lower in the initial stages when sales volumes are low.

Under the plan, the lease payments would increase as the anticipated volumes grow. At the end of a three to five-year period the retailer would own the equipment.

Another approach, Pedersen notes, is one in which several companies form a venture to provide the capital for a CNG facility at a retail station. Under this arrangement, revenues from the CNG sales would then be split between the Tren-Fuels investors and the marketer.

Natural Fuels Corp. says it seeks joint ventures with retailers either directly with an oil company or with a marketer "with the blessing of the oil company."

Nelson says the company looks at projects in major cities where "we are splitting capital costs, and bringing our know-how and maintenance skills to these facilities."

Industry observers say the financing approaches will help CNG marketers move out of the demonstration period and into the next phase, which is to gain widespread acceptance by fleet users. This is a necessary step, marketers say, before there can be broad acceptance of CNG by the average motorist.

The availability of a sufficient number of NGVs obviously is critical to the success of a CNG station. "We choose a site according to where there is an abundance of vehicles," Magel says. At Natural Fuels, Nelson says the company is building stations in Colorado and converting vehicles to CNG at the same time. "Until

you get the vehicles converted, the stations are going to be just white elephants," he says.

Nelson says this is another reason why CNG marketers should consult with the local gas utility for advice on entering the market. "The utility may be doing some of its own vehicle conversions, which could drive some demand," he explains.

Nelson adds that most of the utilities "don't want to be in the fueling business. They want someone else to do it."

BC Gas has a network of installers in the Vancouver area that convert vehicles to CNG. Magel says the company approaches gasoline stations and auto repair shops that already do exceptional work on conventional systems and trains them to make the CNG conversions.

The CNG system comes in a kit for specific model vehicles and snaps on to the vehicle's existing system, creating a dual-fuel system that can be switched back and forth.

The cost of converting a vehicle to a CNG system in Canada is about \$2,600-\$2,800, roughly the same as in the United States.

Natural Fuel Corp.'s Nelson says the conversion and service centers require a significant amount of welding and must meet warranty requirements that make them best suited to a location separate from the fueling facility. But while the conversion process is centralized, he says maintenance on NGVs could easily be done at service garages at existing stations, adding an incremental profit center for the marketer.

Fina's Haire says there have been no discussions to date on any plan to install a CNG unit at a marketer-operated station. But he says the company would be glad to discuss the possibility with marketers who would be interested.

The prospect for possible CNG joint ventures with jobbers is still two or more years out, Haire says. "But the time frame is contracting," he adds.

—Phil Shook, NPN Correspondent



Fueling a natural gas vehicle is as easy as filling a tank with gasoline, and it "will not get on your hands."

vehicles that are expected to be operating in southern California.

Most of the stations will be located at fleet fueling facilities, which SoCal Gas is encouraging to be open to the public. About 10 will be located in SoCal Gas yards. Six will be located at oil company stations and completely open to the public.

In addition to providing fueling stations, SoCal Gas will encourage the purchase of compressed natural gas vehicles by helping fleet owners pay up to 50% of the extra costs of the first production models. As a further incentive, the company will price the fuel at less than 80¢/gal. gasoline equivalent.

### CNG virtues

Compressed natural gas has a lot going for it. It's plentiful, widely available, cheap and clean—and reduces oil consumption and imports. If it didn't cost so much to make a CNG vehicle or convert one to CNG, and if it didn't cost a quarter of a million or a million dollars or more to install a two-hose dispenser, CNG might already have cut a wide swath in motor-fuel marketing.

With heavy environmental pressures for cleaner air, however, and a national desire to reduce foreign imports, the balance may

be tipping toward natural gas—especially with natural gas customers paying for subsidization of CNG.

Natural gas is a plentiful resource. In a 1989 report, a team at the Colorado School of Mines estimated that total recoverable U.S. natural gas resources are 983-trillion cu.ft., the equivalent of 58 times current annual production levels.

The American Gas Assn. projects that annual supplies of available natural gas will increase steadily through the year 2010, with a potential annual supply rate of more than 24-trillion cu.ft. Natural gas consumption in the U.S. in 1991 is expected to be about 18.8-trillion cu.ft.

If 8-million to 10-million fleet vehicles were operating on natural gas in the United States—about 5% of the nation's total transportation fuel market—only about 1-trillion cu.ft. of additional natural gas would be needed for this purpose, or less than 6% of current consumption.

The national natural gas distribution system, containing a base of 1.2-million miles of underground pipelines, is already in place. All 50 states and major metropolitan areas have access to gas service.

With plentiful supplies and flat demand, natural gas prices have fallen through the floor. The futures price on the New York Mercantile Exchange hit \$1.12/Mcf (thousand cu.ft.) in June, down more than 20¢ in a month and more than 40¢ in a year.

The retail price of compressed natural gas is about 70¢/gal. gasoline equivalent (see graph on page 38).

CNG emissions of air pollutants are, almost across the board, less than those of other motor fuels. The only fuel close is propane (see table). New technology is lowering CNG emissions even more.

A compressed natural gas distribution infrastructure is currently developing. The American Gas Assn. reports that 328 CNG refueling stations for vehicles are in operation in the United States, with about one-third of them open to the public. This number is expected to double in the next 18 months.

Some 30,000 NGVs are on the road, using 5-billion cu.ft. of natural gas annually. This is not much compared with the 18.8-trillion cu.ft. of natural gas expected to be consumed in the United States throughout 1991.

AGA projects 4-million NGVs on the road in 2005 with a consumption of 600-billion cu.ft. annually, 120 times more than today.

CNG appears to be better than any other motor fuel in accomplishing today's U.S. environmental objectives. Although apparently limited mostly to fleet use for now, it looks commercially viable at this time even without economics of scale. Gasoline and diesel fuel are far too dominant even to imagine their being displaced, but natural gas is clearly seeking its place in the sun.

**NM**



Amoco is testing a CNG facility in the Denver market.